Report of the Committee on Laws and Regulations

Dennis Johannes, Chairman
California Division of Measurement Standards

Reference
Key Number

200 INTRODUCTION

This is the report of the Laws and Regulations Committee for the 89th Annual Meeting of the National Conference on Weights and Measures (NCWM). It is based on the Interim Report offered in NCWM Publication 16, testimony heard at public hearings, comments received from the Regional Weights and Measures Associations and other parties, the Addendum Sheets issued at the Annual Meeting, and actions taken by the membership at the Voting Session of the Annual Meeting. The informational items presented below were adopted as presented when the Committee's report was approved.

Table A identifies agenda items by Reference Key Number, title, and page number. The first three digits of the Reference Key Numbers of the items are assigned from the subject series listed below. Voting items are indicated with a "**V**" after the item number. Consent calendar items are marked with a "**VC**." Items marked with an "**I**" after the item number are informational. Items marked with a "**D**" after the key numbers are developing issues. The developing designation indicates an item has merit; however, the item is returned to the submitter for further development before any action is taken at the national level. Items marked "**W**" have been withdrawn from consideration. Table B lists the appendices to the report, and Table C provides a summary of the results of the voting on the Committee's items and the report in entirety.

This report contains recommendations to amend National Institute of Standards and Technology (NIST) Handbook 130, 2002 Edition, "Uniform Laws and Regulations," or NIST Handbook 133, "Checking the Net Contents of Packaged Goods," Fourth Edition. Proposed revisions to the handbook(s) are shown in **bold face print** by ~~striking out~~ information to be deleted and **underlining** information to be added. New items proposed for the handbooks are designated as such and shown in **bold face print**. Text presented for information only is shown in *italic* print. When used in this report, the term "weight" means "mass."

Subject Series

Table A
Index to Reference Key Items

Table B
Appendices

Table C
Voting Results

Reference Key Number	House of State Representatives		House of Delegates		Results
	Yeas	Nays	Yeas	Nays	
236-1	36	0	25	0	Item Passed
237-2	36	0	31	0	Item Passed
237-3A	35	0	31	0	Item Passed
200 - Entire Committee Report	36	0	31	0	Report Accepted

Details of all Items
(In Order by Reference Key Number)

231 PACKAGING AND LABELING REGULATION

(This item was adopted as part of the report.)

231-1 I Amend § 6.5.1. Symbols

Source: NIST Weights and Measures Division.

Recommendation: The Committee will grant NIST editorial privileges to amend the list of allowed symbols for the quantity statement on a package or commodity by adding the following:

6.5.1. Symbols. - Any of the following symbols for SI units, and none other, may be employed in the quantity statement on a package or commodity:

centimeter	cm	cubic meter	m^3
cubic centimeter	cm^3	kilogram	kg
meter	m	gram	g
milligram	mg	millimeter	mm
liter	L or l	square meter	m^2
milliliter	mL or ml	cubic decimeter	dm^3
square centimeter	cm^2	square decimeter	dm^2
micrometer	µm	**microgram**	**µg or mcg**

Discussion: The Food and Drug Administration (FDA) has permitted the use of the symbol "mc" for "micro," in addition to the traditional symbol "µ," on packages labeled by weight. This practice is allowed because the pharmaceutical industry is having difficulty fitting the symbol "µ" on their labels. The symbol "µ" requires additional height that the extremely small labels found on some prescription drugs cannot accommodate. The symbol "mc" is intended to give manufacturers another option for their quantity declaration. Although there will be very few commodities regulated by the weights and measures community affected by this change, this revision is being made so that state and local weights and measures regulations remain consistent with federal packaging and labeling practices. The Committee considers this an editorial change.

The Committee's Canadian Technical Advisors informed the Committee that the symbol "mc" for microgram is not recognized in Canada.

232 METHOD OF SALE REGULATION

(This item was adopted as part of the report.)

232-1 I Amend § 1.12. Ready-to-Eat Food

Source: Southern Weights and Measures Association (SWMA).

Recommendation: The Committee will grant NIST editorial privileges to amend the definition of "Ready-to-Eat Food" found in Section 1.12.1. of the Method of Sale Regulation in Handbook 130 by adding the following note:

NOTE: The sale of an individual piece of fresh fruit (like a banana, apple, or orange) is allowed by count.

Discussion: One State department of weights and measures had expressed concern about whether the definition of "Ready-to-Eat Food" permitted individual bananas to be sold by the each at establishments like cafeterias and convenience stores. At these locations sales of individual pieces of fresh fruit, like bananas, apples, and oranges, are commonplace. Amending the "Ready-to-Eat Food" definition to specifically state that individual servings of fresh

fruit are to be considered ready-to-eat will assist states in properly interpreting the guideline. This change in the "Ready-to-Eat" definition does not, and should not be interpreted to, change the method of sale laws and regulations as they apply to sales of multiple pieces of fresh fruit, or to sales of individual or multiple items of other produce.

The Committee feels that this change is warranted because: (1) The sale of individual pieces of fresh fruit in establishments should be an acceptable practice. Individual pieces of fresh fruit are commonly sold in cafeterias, convenience stores, and delis as part of ready-to-eat meals. This practice does not mislead consumers because the consumer can see, evaluate, and compare a single banana, apple, orange, etc., and determine its acceptability prior to purchase. (2) According to U.S. government statistics, over half of the adults in America are overweight or obese, and today obesity in children is rapidly becoming a major health crisis. State governments should be promoting the consumption of nutritious products like fresh fruit, and weights and measures can ensure that such healthy food choices are available to consumers by making them readily and conveniently available. The Committee believes this practice is already allowed in most states. The Committee considers this an editorial change.

232-2 W Stored Tare Weights

(This item was withdrawn.)

Source: Southern Weights and Measures Association (SWMA). (See item 232-3 on page L&R-9 in the Report of the 85th NCWM Annual Meeting in 2000)

Discussion: The Committee reviewed the following proposal to add language to the Handbook 130, Method of Sale Regulation:

3.5. Vehicle Tare Weights - Whenever stored vehicle tare weights are employed, the following conditions and requirements shall apply:

3.5.1. All stored vehicle scale tare weights shall be determined to the nearest scale division. When stored tare weights are used, issued weight certificates shall identify that fact by placing words such as "stored tare" next to the tare weight. Abbreviations or symbols may be used, provided the terminology is defined elsewhere on the printed ticket.

3.5.2. Stored vehicle scale tare weights shall be verified at regular intervals at a frequency to be determined by the jurisdiction with statutory authority for the device, unless preempted by a more stringent guideline/requirement or modification of the vehicle.

This item was first introduced because stored vehicle tare weights have often been found to be incorrect. Errors found in initial vehicle tare weight surveys ranged from 8,900 pounds under, to 2,680 pounds over. A load of sand or gravel priced at $5.50 per ton with a tare error of 750 pounds would result in a monetary error of $2.06 per weighment. If this error were to occur on four transactions each day for 240 working days, the result would be a monetary error of more than $1,977 for the year. Since the practice of using stored tare is common in other types of businesses (e.g., landfills and asphalt plants) where prices per ton may be as high as $70, a tare error of 750 pounds could equal a monetary error of $26 per weighment, or $24,960 per year.

Since 1999 the Committee has reworked and reworded this item several times. The proposal was voted on by the NCWM in 2002 and 2003, and failed to pass on both occasions. Objections raised against this proposal focused on two concerns: (1) how to enforce it (most jurisdictions do not have resources to spend checking stored tare weights for accuracy); and (2) the appropriateness of the "nearest scale division" requirement in 3.5.1. (Is this a tolerance above and beyond the tolerance for the device? Is one scale division sufficient to allow for changes in the amount of fuel in the gas tank of the vehicle, or for a change in drivers?) While the Committee acknowledges that incorrect stored tare weights can be a problem, the Committee believes that these problems can be adequately addressed through the enforcement of net weight. The Committee has withdrawn this item.

NIST will be hosting a Public Forum on September 28, 2004, titled "Weighing Requirements and Practices for the Weighing of Trucks for Commercial Purposes." The issue of stored tare weights will be on the Forum agenda. Anyone interested in additional information about this forum may contact NIST for details.

232-3 W Scaling Methods for Trees, Sawlogs & Veneer Logs

(This item was withdrawn.)

Source: Central Weights and Measures Association (CWMA).

Discussion: The Committee reviewed the following proposal to amend the Method of Sale Regulation in Handbook 130 by adding:

2.xx. Trees, Sawlogs & Veneer Logs – Scaling Methods. The requirements of this section provide for unbiased and consistent estimates of timber volumes offered for sale across regions and for different timber types.

2.xx.1. Definitions

Tree: Woody plant having one erect perennial stem or trunk at least 3 inches (7.5 cm) in diameter at breast height (dbh).

Sawlog: A roundwood product of a tree, usually 8 feet (2.4 m) in length or longer, processed into a variety of sawn products such as lumber, ties, cants, and timbers.

Veneer Log: A roundwood product of a tree, usually 8 feet (2.4 m) in length or longer, either rotary cut, sliced, or sawn into a variety of veneer products such as plywood, panels, and veneer.

Firmwood: The content of a tree or log that is sound.

2.xx.2. Quantity. Representations for trees and logs shall be in terms of cubic foot (or cubic meter) representing the net firmwood content of a saw or veneer log. It is obtained from such a log's two end diameters (inside the bark) and its gross length using Smalian's formula (with appropriate deductions for rot, holes, char, and missing wood):

$$\text{Volume} = \frac{\text{Length}(\text{Area of small end} + \text{Area of large end})}{2}$$

The Committee contacted the USDA Forest Service, State Foresters around the country, as well as several lumber and timber industry associations asking for comments and feedback on this item. The comments received were overwhelmingly opposed to this proposal. Letters and e-mails received by the Committee were tallied, and over 170 industry members, the USDA Forest Service, and numerous State Foresters opposed the proposal. The Committee received only 5 letters in support of this item. The Committee feels that, while method of sale issues generally fall within the realm of weights and measures enforcement, this proposal would mandate a method of sale in an industry where other state and federal agencies have primary jurisdiction. Consultation with the experts in the field of timber and logging convinced the Committee that this regulation is not advisable (a summary of the written comments received on this item can be found in Appendix C). The Committee has withdrawn this item.

Background: The following information was provided to the Committee by the original proponent of this item: The U.S. generally uses traditional product yield-based board-foot scales to measure trees. These scales were developed in the 19th century according to practices, technologies, and tree sizes prevalent at that time. These scales have not been changed or updated to reflect changes in technology and resource size, making them outdated and inaccurate in the contemporary context. Since the 19th century our forests have transitioned to a 2nd growth (smaller diameter) resource, and these antiquated scales have become inaccurate in estimating true yield potential. To compound the matter, different States and regions of the country use different board-foot scales to estimate yield. Making volume and value comparisons across regions is extremely difficult without a standard tree/log scaling system. The various current scales based on board feet contain biases for longer length and smaller diameter logs that distort volume estimates of such logs.

232-4 D Temperature Compensation for Petroleum Products

Source: Southern Weights and Measures Association (SWMA).

Recommendation: Amend the Method of Sale Regulation in Handbook 130 by adding the following:

2.20.X. Petroleum Products – Where not in conflict with other statutes or regulations, petroleum products delivered through a vehicle-tank meter or stationary meter shall be sold with the volume adjusted to compensate for temperature. When petroleum products are sold temperature compensated:

(1) All sales shall be in terms of liters or U.S. gallons at 15 °C (60 °F);

(2) The temperature compensation shall be accomplished through adjustable automatic means.

(3) The primary indicating elements, recording elements, and all recorded representations (receipts, invoices, bills of lading, etc) shall be clearly and conspicuously marked to show that the volume delivered has been adjusted to the volume at 15 °C (60 °F);

(4) All sales by the same company over at least a consecutive 12-month period must be sold temperature compensated (i.e., a company cannot choose to operate some devices with automatic temperature compensators and others without; nor can a company choose to engage a device's temperature compensator only during certain times of the year).

Discussion: Selling fuel by adjusting the volume to 15 °C (60 °F) throughout the distribution system is the most equitable way that fuel can be sold without the buyer or seller gaining a competitive advantage. By allowing a distributor to buy product on gross volume at the wholesale level and sell it by net gallons retail, where he can manipulate the method of sale depending on the time of year, is not equitable. A single method of sale should be required so that a prospective customer can make a value comparison. There is no practical way the average customer can make a value comparison when some locations sell product temperature compensated and other locations sell without temperature compensation.

This item is considered in conjunction with a temperature compensation item that is before the Specifications and Tolerances (S&T) Committee (Item 331-1), although it is important to note that the S&T Committee's item is limited to Vehicle Tank Meters. The Committee believes that this is an important issue that should be given careful consideration, and that this item needs to be discussed with parties that may be affected by its adoption. Therefore, the Committee has decided to make this item developmental.

A similar proposal was made by the NEWMA in 2000 that mirrored a temperature compensation item that was before the S&T Committee at the time. In 2000 the NEWMA noted that Pennsylvania, New Hampshire, Maine and Canada permit temperature compensation in sales of products like home heating fuel and retail gasoline. In 2001 the Committee withdrew this item after hearing testimony from several jurisdictions that opposed it.

232-5 W Cooking Oils

(This item was withdrawn.)

Source: Central Weights and Measures Association (CWMA).

Discussion: The Committee reviewed the following proposal to add language to the Handbook 130, Method of Sale Regulation:

1.xx. Cooking Oils. All cooking oils shall be sold by liquid measure.

Large packages of cooking oil are intended primarily for institutional use and are labeled by weight. Smaller packages of cooking oil are intended for consumer use and are labeled by liquid volume. However, with the recent increase in the popularity of turkey fryers (devices designed to fry whole turkeys in cooking oil), large packages of cooking oil have begun appearing in the retail market. Some manufacturers label these packages by weight (e.g., 35 lb [15.8 kg] or 50 lb [22.6 kg]), while others label them by volume (e.g., 3 gal [11.3 L] or 5 gal [18.9 L]). These conflicting methods of sale frustrate consumers' ability to make value and price comparisons when shopping for these large packages of cooking oil.

The Committee heard oral, and received written, testimony from industry members who opposed this item. Industry members testified that while historically smaller volumes of cooking oil have been sold by liquid measure, larger volumes have always been sold by weight. Industry members asserted that requiring liquid measure as the method of sale for all cooking oils would place a tremendous burden on industrial and institutional users who expect and need this product to be sold by weight.

The Committee believes that changes in the marketplace, not changes in industry practices, have brought this issue to the forefront. Prior to the proliferation of turkey fryers there was little, if any, demand for large quantities of cooking oil in the consumer marketplace. Due to new consumer demands, products that were historically intended for institutional or industrial use have found their way into the retail market. The Committee notes that the traditional method of sale for large volumes of cooking oil is by weight.

Research into the turkey fryer market revealed that most fryers have a capacity of 7 gallons (26.4 L) or less, which means that it would be unlikely for much more than 5 gallons (18.9 L) of oil to be required for cooking. The Committee considered whether or not it would be feasible to require liquid measure as the method of sale for smaller quantities (e.g., 5 gallons [18.9 L] or less). The problem with requiring packages of "5 gallons (18.9 L) or less" to be sold by liquid volume, however, is that it includes the 35 lb (15.8 kg) and 50 lb (22.6 kg) packages of oil, two very popular sizes for institutional use. Institutions need cooking oil to be sold by weight because they have no means by which to measure out large quantities of oil by volume for their recipes. While a hospital, nursing home, or food service agency can easily place a container on a scale to measure a quantity, they cannot easily measure that same quantity volumetrically.

The Committee also considered requiring combination declarations (i.e., both weight and volume) on cooking oils. Handbook 130 allows combination declarations on packages when a single declaration alone is not fully informative. The Committee rejected this idea because: (1) the issue here is not whether or not the quantity declaration is fully informative; both weight and volume are fully informative on their own, (2) there was no reason to require a weight declaration on the smaller, retail-sized packages of cooking oil; to implement such a requirement would place an undue burden on manufacturers and packers, and (3) if a combination declaration is required a manufacturer or packer must meet both declarations; again, to implement such a requirement would place an additional burden on manufacturers and packers.

Finally, the Committee considered requiring "packaged cooking oils sold at retail" to be sold by volume. The Committee rejected this idea because it did not believe that a manufacturer or packer would necessarily know, at the time of packaging the product, whether it would be destined for retail or institutional sale.

The Committee believes that the consumer market for large quantities of cooking oil is relatively small, and is not convinced that most consumers will be doing cost comparisons between large containers of oil sold by weight at a membership club, and small packages of oil sold by volume at a grocery store. The Committee does not consider it appropriate to change an entire, established industry practice for the convenience of a very small number of specialized retail customers. The Committee recommends that cooking oil manufacturers and packers include supplemental quantity declarations in liquid volume on any package of cooking oil that may end up in the retail marketplace. The Committee has withdrawn this item.

236 UNIFORM NATIONAL TYPE EVALUATION REGULATION

236-1 V Amend §§ 2.1. Active Certificate of Conformance, 2.2. Device, and 3. Certificate of Conformance

(This item was adopted.)

Source: Northeast Weights and Measures Association (NEWMA).

Recommendation: Amend §§ 2.1 Active Certificate of Conformance, 2.2 Device, and 3. Certificate of Conformance, of the Uniform National Type Evaluation Regulation as follows:

2.1. Active Certificate of Conformance. - A document issued based on testing by a Participating Laboratory, which the certificate ~~owner~~ **holder** maintains in active status under the National Type Evaluation Program (NTEP). The document constitutes evidence of conformance of a type with the requirements of this document**,** ~~**and the**~~ NIST Handbook~~s~~ 44~~**, 105-1, 105-2, or 105-3**~~ **(Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices), and the test procedures contained in NCWM Publication 14.** By maintaining the Certificate in active status, the Certificate ~~owner~~ **holder** declares the intent to continue to manufacture or remanufacture the device consistent with the type and in conformance with the applicable requirements. **A device is traceable to a Certificate of Conformance if: (a) it is of the same type identified on the Certificate; and (b) it was manufactured during the period that the Certificate was maintained in active status.** For manufacturers of grain moisture meters, maintenance of active status also involves annual participation in the NTEP Laboratory On-going Calibration Program, OCP (Phase II). ~~**A device is traceabke to an active Certificate of Conformance if it was manufactured during the period that the Certificate was maintained in active status.**~~

(Amended 2000, 2001**, and 200x**)

2.2. Device. - ~~Device means any weighing and measuring equipment as defined in § 2.15., Commercial and Law Enforcement Equipment.~~ **A piece of commercial or law enforcement equipment as defined in § 2.15., Commercial and Law Enforcement Equipment. A device may be a single unit or a combination of separate and compatible main elements. A device shall include, at a minimum, those main elements that: (a) perform the measurement; and (b) process the measurement signals up to the first indicated or recorded value of the final quantity upon which the transaction is based. (Amended 200x)**

Section 3. Certificate of Conformance

The Director shall require a device to be traceable to a Certificate of Conformance prior to its installation or use for commercial or law enforcement purposes. **If the device consists of separate and compatible main elements, each main element shall be traceable to a Certificate of Conformance. A device is traceable to a Certificate of Conformance if: (a) it is of the same type identified on the Certificate, and (b) it was manufactured during the period that the Certificate was maintained in active status. (Amended 2001 and 200X)**

Discussion: The NTEP Board of Directors believes that the term “holder” more accurately reflects the rights of a company that possesses an NTEP Certificate of Conformance than the term “owner”. First, NTEP retains many of the rights traditionally associated with “ownership”: NTEP issues Certificates, and may withdraw or make them inactive if a company fails to meet certain obligations under the Administrative Policy. Second, the nature of the incorporation of the NCWM prevents the NCWM from transferring things of material value. The term "owner" implies that in issuing a Certificate of Conformance, the NCWM had transferred something of value to the manufacturer. Finally, Certificates of Conformance may be thought of as being in the public domain since their use is not restricted, and state and local jurisdictions freely copy and distribute them. The term "holder" still conveys certain important rights and privileges, such as the ability to transfer the Certificate and the authority to determine if a device is traceable. The Committee believes that changing the term “owner” to “holder” in section 2.1. is consistent with other changes implemented by NTEP.

A State has noted that the language in the NTEP Regulation may not permit the mating of separate main elements, each of which has a Certificate, unless the combination has a separate Certificate of its own. The current language in Section 3 uses the singular form (i.e., "a" Certificate of Conformance), which could be interpreted to mean that every device must have "one" Certificate. The U.S. has permitted the mixing and matching compatible main elements since before the NTEP program began. The amendment to the definition of "device" clarifies that a device (i.e., an entire weighing or measuring instrument) may be a single unit or a combination of separate main elements. The final amendment clarifies that devices or elements must have Certificates consistent with current NTEP policies. This is clearly stated in the NTEP Administrative Policy but does not have a parallel statement in the regulation. The Committee believes that the addition of language addressing devices that are composed of separate and compatible main elements is helpful for correctly interpreting and applying this section. The Committee has not received any comments opposing these changes.

237 ENGINE FUELS, PETROLEUM PRODUCTS, AND AUTOMOTIVE LUBRICANTS REGULATION

237-1 W Petroleum Subcommittee Agenda Items

(This item was withdrawn.)

Source: The Petroleum Subcommittee. (See item 237-3 on page L&R-14 in the Report of the 84th NCWM Annual Meeting in 1999.)

Discussion: The Petroleum Subcommittee Agenda has remained on the Committee's agenda since 1999 as a reminder of what the Subcommittee is working on. However, the Committee has decided that the work of the Subcommittee can be more easily and effectively maintained on the internet and has asked NIST to post this information on the NIST website. NIST has established a website for posting and updating the work of the Petroleum Subcommittee. The URL for this site is: http://ts.nist.gov/ts/htdocs/230/235/petroleum.htm. Alternatively, this site can be accessed through the NIST WMD website: (1) Go to www.nist.gov/owm, (2) Under the "Related Links" section click on "NCWM Petroleum Subcommittee." The Committee has withdrawn this item.

237-2 V Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation

(This item was adopted.)

Source: Western Weights and Measures Association (WWMA). (See item 237-2 on page L&R-6 in the Report of the 87th NCWM Annual Meeting in 2002.

Recommendation: Modify the Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation as shown in Appendix A.

Discussion: The title "Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation," (or EFR) implies that the document covers lubricants. When the regulation was developed, the Petroleum Subcommittee made developing engine fuel requirements a priority, with the understanding that in the future they would address lubricants. This proposal provides new specifications and regulations for lubricants.

This item was originally part of the Petroleum Subcommittee's agenda, and was broken out as a separate item after the Subcommittee prepared a new draft of the regulation. The Committee has heard testimony from representatives of the American Petroleum Institute (API) supporting this item. The Committee has neither heard nor received any comments opposing this item.

The Committee wishes to recognize the work done on this issue by the Automotive Lubricants Workgroup, and to thank the members of the Workgroup for their time and contributions. The members of the Automotive Lubricants Workgroup are: D. Johannes, California; M. Belue, Belue Associates; D. Clark, Citgo; L. Gibbs, Chevron/Texaco; C. Gordon, American Petroleum Institute; R. Hayes, Missouri; D. Heck, Chevron/Texaco; A. Herbert, California; R. Jennings, Tennessee; D. Lazier, California; and A. Schuettenberg, ConocoPhillips.

237-3A V Biodiesel Fuel Definitions and Specifications

(This item was adopted.)

(At the 2004 annual conference, Item 237-3 was separated into two parts - A and B - to allow for the NCWM to move forward to a vote on the definitions and specifications portions of the proposal, while providing time for additional consideration of the identification and labeling portions of the proposal.)

Source: Central Weights and Measures Association (CWMA). (See item 237-4 on page L&R-6 in the Report of the 88th NCWM Annual Meeting in 2003)

Recommendation: Amend the Handbook 130 Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation as follows:

1. Strike § 1.8. Biodiesel:

   ~~**1.8. Biodiesel. - means a blend consisting of diesel fuel and a substantial amount of esterfied animal fats and/or vegetable oil(s).**~~

   And replace it with the definition from the American Society for Testing and Materials (ASTM) D 6751, Standard Specification for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels:

   1.8. Biodiesel. - a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100.

2. Add the following to the definitions section and renumber that section as appropriate:

   1.X. Biodiesel Blend. - a fuel comprised of a blend of biodiesel fuel with petroleum-based diesel fuel, designated BXX. In the abbreviation BXX, the XX represents the volume percentage of biodiesel fuel in the blend.

3. Adopt specifications for Biodiesel and Biodiesel Blends by adding:

   2.15 Biodiesel - B100 biodiesel intended for blending with diesel fuel shall meet the most recent version of ASTM D 6751, Standard Specification for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels.

   2.16 Biodiesel Blends – blends of biodiesel and diesel fuels shall meet the following requirements: (a) the base diesel fuel shall meet the most current requirements of ASTM D 975, Standard Specification for Diesel Fuel Oils; and (b) the biodiesel blend stock shall meet the most current requirements of ASTM D 6751, Standard Specification for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels.

   2.16.1. Exception - biodiesel may be blended with diesel fuel whose sulfur or aromatic levels are outside Specification ASTM D 975, Standard Specification for Diesel Fuel Oils, Grades 1-D, low sulfur 1-D, 2-D, or low sulfur 2-D provided the finished mixture meets pertinent national and local specifications and requirements for these properties.

Discussion: The Committee has been working on this item since 2002, and has been monitoring the activities of ASTM with regard to biodiesel fuels. The Committee feels that it is absolutely necessary to change the definition of biodiesel contained in § 1.8; what is there is incorrect. By incorporating and adopting ASTM specifications D 975 and D 6751 the Committee hopes to avoid continuous updating of the Handbook in an attempt to keep up with future developments in this area. Comments the Committee received from the biodiesel industry indicate that, while they were not entirely happy with this proposal, they feel it is important to move forward with some sort of specification for these products.

Items 237-3A and 237-3B were originally proposed as a single item, 237-3. The Committee believes that there is no opposition to the definition sections proposed, or to the specification sections after slight modification. However, the National Biodiesel Board (NBB) has expressed concern over the identification and labeling sections proposed, and has submitted alternative language for the Committee to consider. The Committee believes that it needs more time to consider the identification and labeling sections and the NBB proposal. Therefore, the Committee has decided to split Item 237-3 into two parts: the definition and specification sections will move forward for a Vote as Item 237-3A, while the identification and labeling sections will be carried forward as Informational Item 237-3B.

Background: Laws and regulations require that accurate and adequate information be placed on commodities allowing consumers to make price and quantity comparisons. For our economy to function properly consumers must also be able to rely on manufacturers' product "claims." Products must meet manufacturer specifications and claims.

When ASTM first developed the biodiesel specification in 1993, it proposed a specification for biodiesel use as a pure fuel, called B100. However, several engine manufacturers had reservations about B100 biodiesel because they had no experience using blends over 20 % (B20). Engine manufacturers recommend that users consult with their engine manufacturer before using biodiesel blends above 5 % (B5) as concerns related to costs, rubber and gasket compatibility, and cold flow properties exist with these blends. While experience over the last 10 years and 40 million on-road miles has shown that biodiesel blends of up to 20 % (B20) do not require modifications to the fuel systems of conventional diesel engines, the manufacturers of these engines still promote caution when using biodiesel blends over 5 % (B5).

The fact of the matter is that the higher cost of biodiesel results in few customers using blends higher than B20. Therefore, neither the biodiesel industry nor the engine industry was interested in investing the money and resources necessary to meet a B100 standard. Since B20 was the highest-level product envisioned with commercial potential, and since the engine community would not support the inclusion of more than 20 % without further testing, ASTM decided to develop a blend stock standard. The ASTM Biodiesel Task Force developed D 6751 as the set of properties that B100 must meet before being blended into diesel fuel for an up to 20 % biodiesel by volume.

As a blend-stock standard, the ASTM Biodiesel Standard was developed in a manner similar to that of 1-D and 2-D diesel fuel, which are also frequently blended in the commercial marketplace as a means to improve the cold flow properties of 2-D in winter months. If the parent fuels meet their respective specifications, they can be blended and there is no separate set of specifications for the blended mixture. The current requirement of the biodiesel specification is as follows: if biodiesel meets D 6751 and diesel meets D 975 (either 1-D or 2-D), then the two can be blended up to 20 % biodiesel and there is no separate set of properties required for the B20 mixture. For example, as with 2-D, blends of B20 can contain higher levels of 1-D for improved cold flow properties in winter. This method has served industry and consumers well, especially in the formative stages of biodiesel development.

237-3B I Biodiesel Fuel Identification and Labeling Requirements

(At the 2004 annual conference, Item 237-3 was separated into two parts - A and B - to allow the NCWM to move forward to a vote on the definitions and specifications portions of the proposal, while providing time for additional consideration of the identification and labeling portions of the proposal.)

Source: Central Weights and Measures Association (CWMA). (See item 237-4 on page L&R-6 in the Report of the 88th NCWM Annual Meeting in 2003)

Recommendation: Amend the Handbook 130 Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation as follows:

Adopt identification and labeling requirements by adding:

3.15 Biodiesel

3.15.1. Identification of Product. – Biodiesel and biodiesel blends shall be identified by the capital letter B followed by the numerical value representing the volume percentage of biodiesel fuel. (Examples: B100; B20)

3.15.2. Labeling of Retail Dispensers of Biodiesel and Biodiesel Blends - Each retail dispenser of biodiesel or biodiesel blend shall be labeled with the capital letter B followed by the numerical value representing the volume percentage of biodiesel fuel and ending with the word 'biodiesel'. (Examples: B100 biodiesel; B20 biodiesel)

3.15.3. Documentation for Dispenser Labeling Purposes. – The retailer shall be provided, at the time of delivery of the fuel, with a declaration of the volume percent biodiesel on an invoice, bill of lading, shipping paper, or other document. This documentation is for dispenser labeling purposes only; it is the responsibility of any potential blender to determine the amount of biodiesel in the diesel fuel prior to blending.

3.15.4. Exemption. – Biodiesel blends containing 5 % or less biodiesel by volume are exempted from requirements 3.15.1., 3.15.2., and 3.15.3.

Discussion: The Committee has been working on this item since 2002, and has been monitoring the activities of ASTM with regard to biodiesel fuels. The Committee has decided to continue moving forward with identification and labeling requirements for biodiesel blends containing more than 5 % biodiesel by volume despite ASTM's indecision on this topic. The Committee feels that it was important for consumers to be properly informed about what is being offered for sale so that they can make informed purchases. The Committee has been informed that ASTM is considering changing the "Fill and Go" specifications in D 975 to include biodiesel blends of 20 % or less. If this is the direction ASTM decides to go, then the Committee may need to re-evaluate the requirements for those fuels between 5 % and 20 % biodiesel.

Items 237-3A and 237-3B were originally proposed as a single item, 237-3. The Committee believes that there is no opposition to the definition sections proposed, or to the specification sections after slight modification. However, the National Biodiesel Board (NBB) has expressed concern over the identification and labeling sections proposed, and has submitted alternative language for the Committee to consider. The Committee believes that it needs more time to consider the identification and labeling sections and the NBB proposal. Therefore, the Committee has decided to split Item 237-3 into two parts: the definition and specification sections will move forward for a Vote as Item 237-3A, while the identification and labeling sections will be carried forward as Informational Item 237-3B.

Background: Laws and regulations require that accurate and adequate information be placed on commodities allowing consumers to make price and quantity comparisons. For our economy to function properly consumers must also be able to rely on manufacturers product "claims." Products must meet manufacturer specifications and claims.

When ASTM first developed the biodiesel specification in 1993, it proposed a specification for biodiesel use as a pure fuel, called B100. However, several engine manufacturers had reservations about B100 biodiesel because they had no experience using blends over 20 % (B20). Engine manufacturers recommend that users consult with their engine manufacturer before using biodiesel blends above 5 % (B5) as concerns related to costs, rubber and gasket compatibility, and cold flow properties exist with these blends. While experience over the last 10 years and 40 million on-road miles has shown that biodiesel blends of up to 20 % (B20) do not require modifications to the fuel systems of conventional diesel engines, the manufacturers of these engines still promote caution when using biodiesel blends over 5 % (B5).

ASTM considers biodiesel blends between B5 and B20 "Fill and Go" since they do not generally require changes to the engine or fuel system. However, biodiesel levels higher than B20 may need to have different gaskets and hoses. While blending biodiesel greater than 20 % does not readily occur in today's market place, it may in the not too distant future. Therefore, the biodiesel industry supports accurate labeling for all fuel dispensers and encourages the NCWM to adopt these recommendations.

An issue that remains, however, is the opportunity for facilitation of fraud by claiming inaccurate percentages of biodiesel. Biodiesel blends cost significantly more than conventional diesel fuels. As such, there is the possibility that unscrupulous fuel distributors may advertise a higher concentration of biodiesel than they are delivering, and thus derive undue profits. If a distributor claims that they are selling B20 and they are putting in only 1 %, the distributor is misrepresenting the product. The biodiesel industry claims that this is not a pump labeling issue but an enforcement issue.

Part of the problem with a strict percentage labeling requirement is that as biodiesel blends become more "mainstream," the percentage biodiesel added may vary from day-to-day depending on the needs of the distributor. Currently this practice is discouraged by the relatively high cost of biodiesel. However, as the price of biodiesel moves closer to the price of diesel fuel it becomes just one of the myriad compounds which could make up conventional diesel fuel. Refiners could blend in biodiesel to reduce the sulfur content or aromatic content of the finished blend. They could use it to replace their existing lubricity additives. If the price of biodiesel was more equal to diesel, they may add 1 % today, 5 % the next day, and 20 % the next day. As long as the finished blend meets the D 975 "Fill and Go" specification, the level of biodiesel could range as high as 20 % without

consequence. Labeling requirements that are too restrictive would eliminate the flexibility of the "Fill and Go" concept, and could significantly reduce the amount of biodiesel that is eventually used.

ASTM is currently developing a Biodiesel "Fill and Go" specification for D 975 that is not based on the parent fuels, but on the finished fuel and what is satisfactory for operation in a diesel engine. This may also mean changes to D 6751, which is a stand-alone specification. The current thinking is that the upper biodiesel concentration limit for the D 975 "Fill and Go" specification will be 20 %, although it is possible that it could ultimately be higher or lower. Whatever the concentration of biodiesel, if the finished blend meets the D 975 "Fill and Go" specification, the fuel is D 975-grade diesel fuel and would have to be labeled such. Some industry members believe that existing labeling requirements in Handbook 130 are sufficient to address this situation.

237-4 W E diesel

(This item was withdrawn.)

Source: Central Weights and Measures Association (CWMA). (See item 237-5 on page L&R-10 in the Report of the 88th NCWM Annual Meeting in 2003.)

Discussion: E diesel is a blend of Standard Number 2 diesel fuel containing up to 15 % ethanol by volume. The blend may also contain proprietary additives from 0.2 % to 5.0 % by volume to maintain certain fuel properties and blend stability. E diesel is being sold commercially for off-road applications and is being used in several on-road demonstration fleets. Currently there is no consensus on specifications that E diesel must meet. There are also no labeling requirements for retail dispensers selling E diesel.

A group of E diesel stakeholders have formed the E Diesel Consortium to address the technical and regulatory issues surrounding this fuel. The Consortium has also approached ASTM about developing an E diesel specification. The Consortium is concerned that, without a detailed minimum specification, it could be possible to sell diesel ethanol blends that are of insufficient quality for their intended use.

The Committee originally placed this item on its agenda pending a recommendation from ASTM. It is the Committee's understanding that ASTM is moving very slowly in this area, and that it may be several years before there is a proposal for the Committee to consider. The Committee has decided to place this item on the Petroleum Subcommittee's agenda until there is more specific information for it to act upon. The Committee has withdrawn this item.

237-5 W Nozzle Requirements for Diesel Fuel

(This item was withdrawn.)

Source: Central Weights and Measures Association (CWMA). (See item 237-2 on page 198 in the Report of the 82nd NCWM Annual Meeting in 1997.)

Discussion: The Committee reviewed the following proposal to amend the Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation in Handbook 130 by adding:

> **3.3.X. Nozzle Requirements for Diesel Fuel. - Each dispensing device from which diesel fuel is sold shall be equipped with a nozzle spout having a terminal end with an outside diameter of not less than 23.63 mm (0.930 in).**

Consumers are dispensing diesel fuel into non-diesel vehicles despite the proper labeling of retail motor fuel dispensers. The American Automobile Manufacturer's Association (AAMA) reported that the recommended 23.63 mm fill pipe diameter is compatible with current diesel-powered vehicles and those on the drawing board for the future.

This proposal has been on and off the Committee's agenda for 7 years, and was unsuccessfully voted on in both 1997 and 2003. This year the Committee heard testimony from one State jurisdiction that not all diesel-powered

vehicles on the road can accommodate the larger nozzle size. The Committee does not believe that this item has enough support within the NCWM to move forward. The Committee has withdrawn this item.

240 EXAMINATION PROCEDURE FOR PRICE VERIFICATION

240-1 W Amend § 6.2 Other

(This item was withdrawn.)

Source: Western Weights and Measures Association (WWMA). (See item 239-1 on page L&R-14 in the Report of the 88th NCWM Annual Meeting in 2003.)

Discussion: The Committee reviewed a proposal to add the following to § 6.2 of the Examination Procedure for Price Verification in Handbook 130:

> **(x) A cash register or computer monitor used to list and total customer purchases must be positioned so that its indications may be observed from a reasonable customer location and/or have a remote indicator display so that its indications may be observed from a reasonable customer location.**

The Committee was concerned that this item oversteps the authority of many weights and measures programs. Not all programs have the statutory authority to regulate point-of-sale systems that are not attached to a weighing or measuring device. In addition, the Committee thought it inappropriate to place a requirement of this nature in an examination procedure. The Committee questioned under what authority any enforcement action could be taken if this requirement only appeared as part of the examination procedure. Although the Committee heard testimony that this item was only intended to apply to retail stores, the proposal is written so broadly that it also captures businesses like restaurants, movie theaters, and street vendors. The Committee heard and received testimony from several industry members, all of whom are opposed to this item. The Committee decided that this was not a proper addition to the examination procedure for price verification. The Committee has withdrawn this item.

Background: The following information was provided to the Committee by the original proponent of this item: A point-of-sale system that is attached to a weighing or measuring device is required to have its indications positioned so that they are visible to the customer in a direct sale (NIST Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices, G-UR.3.3.). Cash registers and computer monitors that do not incorporate a weighing or measuring device are not subject to this requirement. Regardless of whether or not a point-of-sale system is attached to a weighing or measuring device, consumers should be able to instantly confirm prices, and businesses correct pricing errors, during the transaction. The benefit of correct prices and time saved would help everyone involved.

260 NIST HANDBOOK 133, CHECKING THE NET CONTENT OF PACKAGED GOODS

260-1 I Edit MAV Tables 2-5, 2-6, 2-8, and 2-10

(This item was adopted with the report.)

Source: Central Weights and Measures Association (CWMA).

Recommendation: The Committee will grant NIST editorial privileges to amend MAV Tables 2-5, 2-6, 2-8, and 2-10 in Handbook 130 so that the metric values are more closely aligned with the corresponding inch-pound unit values. The newly proposed tables can be found in Appendix B.

Discussion: The inch-pound units and metric units in parts of tables 2-5, 2-6, 2-8, and 2-10 do not match. This creates instances where it is unclear what MAV to apply to a given package. Handbook 133 documents must be mathematically correct on issues of weight and mass. The Committee considers this an editorial change.

Background: NIST informed the Committee that these tables were developed in the 1970's with the inch-pound units as the original values. The metric counterparts were subsequently calculated based on what was then believed to be "reasonable" package sizes. Over the course of the ensuing 30 years, the "rational" metric package sizes envisioned in the 1970's never developed in the marketplace. Instead products are sold in a wide variety of sizes, which makes the 1970's metric conversions in this chart inaccurate and obsolete.

260-2 W Amend § 1.2, Package Requirements

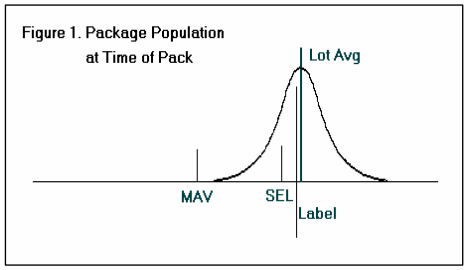
(This item was withdrawn.)

Source: Northeastern Weights and Measures Association (NEWMA). (See item 250-3 on page L&R-18 in the Report of the 88th NCWM Annual Meeting in 2003.)

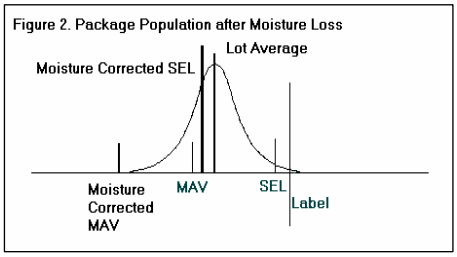
Recommendation: The Committee reviewed the following proposal to amend the section "Why do we allow for moisture loss or gain?" in Handbook 133, Section 1.2, Package Requirements (page 4) as follows:

Why do we allow for moisture loss or gain?

Some packaged products may lose or gain moisture and, therefore, lose or gain weight or volume after packaging. The amount of lost moisture depends upon the nature of the product, the packaging material, the length of time it is in distribution, environmental conditions, and other factors. Moisture loss may occur even when manufacturers follow good distribution practices. Loss of weight "due to exposure" may include solvent evaporation, not just loss of water. **Note that allowances for loss or gain of moisture only apply to packages of commodities where the moisture has no value to the consumer (See Jones vs. Rath).**



For loss or gain of moisture, **you** apply the moisture allowances to the maximum allowable variations permitted for individual packages and to the average net quantity of contents before determining the conformance of a lot. **You may apply the allowance before measuring the package errors or after. When applying the allowance before the measurements, you essentially correct each package back to theoretical weight at time of pack, see Figure 1 at right. When applying the allowance after measuring the package errors, you correct the MAV and SEL to recognize the moisture loss as in Figure 2 at right. You can find specific directions for applying the allowances in tests in Section 2.3.**



This handbook provides "moisture allowances" for some meat and poultry products, flour, and dry pet food (see "Moisture Allowances" in Chapter 2). These allowances are based on the premise that when the average net weight of a sample is found to be less than the labeled weight, but not by an amount that exceeds the allowable limit, either the lot is declared to be within the moisture allowance or more information must be collected before deciding lot compliance or non compliance.

Discussion: One State believes that the explanations provided in Handbook 133 pertaining to moisture loss are inadequate. In considering this proposal, however, the Committee concluded that the reference to the Jones vs. Rath court case is inappropriate and inaccurate. The Committee considers the additional language provided regarding the application of moisture loss unnecessary and confusing. NIST has agreed, however, to review the moisture loss section of Handbook 133 to see if it can be written more clearly. The Committee has withdrawn this item.

Background: The original proponent of this item provided the following written issues and justification. These apply to both this item and the next item (260-3: Amend § 2.3 Basic Test Procedure):

What products are covered by the requirement to recognize loss/gain of moisture in distribution? The reference to the Rath vs. Jones case in Chapter 1 attempts to find an answer. NEWMA believes this may be premature and should be removed from the item for the short term to help develop a solution. However, this is a battle that will have to be fought somewhere in the future, since regulators get claims of moisture loss from diverse packers as an excuse for packages that fail to have labeled net weight. The claims have ranged from windshield washer fluid in plastic jugs to canned tomato sauce. Where can the official turn to get an answer if not to this Handbook? If the committee believes there is a better way, NEWMA would like some guidance.

When do you apply the moisture allowance in the test process? Within the Handbook itself, the method is either not clear or some of the text is wrong. In Chapter 1 the text indicates that you must apply the allowance before the test (i.e., adjusting by using box 13a and thus lowering the NGW in box 14). In Chapter 2, the text appears otherwise. You are directed to add the moisture allowance to the MAV on Page 18. You are further directed to compare the difference between sample average and SEL to the moisture allowance on Page 19. Both of these instructions can only make sense if the value in box 13a was not included in the nominal gross weight calculation in box 14. At the very least these sections fail to provide clear guidance. The proposal attempts to clarify that you can make the correction either before or after and attempts to provide procedures to do that in each case. Before works great for products with established moisture allowances, but it is not possible to apply a correction before the test when dealing with other products. For these other products, you must do additional investigation to determine the magnitude of the loss and you must apply it after the field official has completed the testing. It may also be beneficial to do the adjustment afterwards for products with established moisture loss allowances. Since both before and after methods can provide equivalent results, they should both be recognized in the Handbook. The proposal does this in changes for both Chapters 1 and 2.

Shouldn't all the established moisture allowances be listed in one place, rather than being listed as separate items? The proposal changes the question from one of how you apply the allowance for a specific product to one of what products have established allowances. This brings these all together in one section that is easily found by an inspector.

How do you establish moisture allowances for products not in the list in 3 above? The Handbook provides no guidance whatsoever! In the last line at the bottom of page 17, the text directs the inspector to follow steps if the product is listed, but says nothing about products not listed. This is a huge omission that has many officials wondering what to do? The result is that some packers bluff by playing the moisture loss card even when not entitled to a loss (e.g., canned goods) and many officials back away from these products for lack of direction. The proposal included the provision for comparing time of pack data with actual field data for moisture content that was in the 3rd Edition. It also would permit using data from a scientific study provided by the manufacturer in support of any claim of moisture loss.

Why do we have a different method of evaluating the test results for products with moisture loss than for other products? The basic procedure for evaluating test results calls for evaluating the individual packages against the MAV, and evaluating the sample average against the SEL. On page 19, that procedure is no longer used and instead you have to look at a difference between the sample average and the SEL and not compare it to the moisture allowance. Recently we changed the method of calculating the R_c for tare variability to avoid having different methods for different types of packages. Consistency helps inspectors apply the standard uniformly. NEWMA believes that we should always compare sample average to the SEL and this can be accomplished easily be adjusting the SEL rather than looking at differences. Thus we would follow the same process in evaluating the results in all cases. The only difference is in how we arrive at the SEL and MAV when applying the moisture loss allowance after the test. If you use box 13a before the test, this is done automatically. If you follow the proposed procedure after the test, you calculate a moisture-corrected MAV and a moisture-corrected SEL and simply reevaluate the original test data. While you might get the same result using the procedure on page 19, it uses a different evaluation process and is difficult to understand particularly in how box 13a is or is not used in the calculation of NGW.

260-3 W Amend § 2.3 Basic Test Procedure

(This item was withdrawn.)

Source: Northeastern Weights and Measures Association (NEWMA). (See item 250-4 on page L&R-19 in the Report of the 88th NCWM Annual Meeting in 2003.)

Recommendation: The Committee reviewed the following proposal to delete the current "**Moisture Allowances"** discussion in Handbook 133, Section 2.3, Basic Test Procedure (pages 17 through 19), and replace it as follows:

Moisture Allowances
What products have an established moisture allowance?

Flour and dry pet food have a moisture allowance of 3 % of the labeled net weight. Note: Dry pet food means all extruded dog and cat foods and baked treat products packaged in kraft paper bags and/or cardboard boxes with a moisture content of 13 % or less at the time of pack.

Meat and poultry products from a USDA-inspected plant are permitted no moisture allowance when tested under a Category A sampling plan with Used Dry Tare.

Meat and poultry products from a USDA-inspected plant are permitted the following moisture allowances when tested under a Category A sampling plan with Wet Tare. Note: When there is free flowing liquid or absorbent packaging materials in contact with the product, all free liquid is part of the wet tare.

For packages of fresh poultry that bear a USDA seal of inspection, the moisture allowance is 3 % of the labeled net weight. For net weight determinations only, fresh poultry is defined as poultry above 3 ºC (26 ºF). This is a product that yields or gives when pushed with the thumb.

For packages of franks or hotdogs that bear an USDA seal of inspection, the moisture allowance is 2.5 % of the labeled net weight.

For packages of bacon, fresh sausage, and luncheon meats that bear a USDA seal of inspection, there is no moisture allowance if there is no free-flowing liquid or absorbent materials in contact with the product and the package is cleaned of clinging material. Luncheon meats are any cooked sausage product, loaves, jellied products, cured products, and any sliced sandwich style meat. This does not include whole hams, briskets, roasts, turkeys, or chickens requiring further preparation to be made into ready-to-eat sliced product. When there is no free-flowing liquid inside the package and there are no absorbent materials in contact with the product, Wet Tare and Dried Used Tare are equivalent.

These allowances are based on the premise that when the average net weight of a sample is found to be less than the labeled weight, but not by an amount that exceeds the allowable limit, either the lot is declared to be within the moisture allowance, or more information must be collected before deciding lot compliance or noncompliance.

How do you determine the allowance for products without an established moisture allowance?

For any product subject to moisture loss/gain, you may determine the appropriate moisture loss allowance based on a valid, scientific study. You may not use arbitrarily chosen allowances for moisture loss/gain. Many packers have conducted studies that they can provide in support of any claim that the product lost/gained moisture. Any such study should have included a variety of environments that simulate the potential distribution chains that could be encountered. You may use the moisture loss limits found in such study as an allowance in a compliance test.

What is the accepted method to determine the actual moisture loss for a lot?

Where the packer measures and records the moisture content of product in each lot, you may request a copy of that data to be compared to the moisture content of the product offered for sale. You must select a random sample of the product offered for sale and have it tested for moisture content using a scientifically verified test procedure e.g. like those in the Official Methods of Analysis of the Association of Official Analytical Chemists (See Appendix D). The actual moisture loss is calculated as the moisture content (percent) at time of pack minus moisture content (percent) at time of sale. Use the difference obtained to calculate the actual moisture loss for the lot by multiplying it times the label quantity. Use this as the moisture allowance in the official test. In the case of moisture gain, this value will be a negative number.

Calculations

How do you apply a moisture allowance when conducting a test?

Moisture allowances may be applied either prior to testing or after testing. These two methods are mathematically equivalent means of adjusting both the individual package errors and the sample average. It is common practice to apply the moisture correction prior to the test for those products with established moisture allowances like flour and dry pet food. In most other cases the correction is made after the test since moisture loss data will probably be obtained as part of the follow-up investigation after the initial test has failed.

To compute the moisture loss allowance prior to testing, you correct the nominal gross weight in box 14 for moisture loss. Find the value of the allowance by multiplying the labeled quantity by the decimal percent value of the allowance. Enter this value in box 13a on the form. The nominal gross weight is found by adding the average tare (box 13) to the label quantity (box 1) and subtracting the moisture allowance (box 13a). Lot compliance is evaluated in the normal way using decision criteria in boxes 16 and 24 on the report form.

Example: Labeled quantity of a bag of flour is 2 lb and average tare is 0.04 lb (box 13)
Moisture Allowance is 3 % (0.03) of 2 lb = 0.06 lb
Nominal Gross Wt. = 2 lb + 0.04 lb – 0.06 lb = 1.98 lb record this value in box 14.

To compute the moisture loss allowance after testing, you correct only the MAV and SEL for moisture loss. Perform your initial test with no moisture allowance in box 13a. When moisture loss data becomes available, find the value of the allowance by multiplying the labeled quantity by the decimal percent value of the moisture loss or allowance. Lot compliance is evaluated using decision criteria in boxes 16 and 24 on the report form and the moisture corrected MAV and SEL respectively.

Example: Labeled quantity of a package of rice is 2 lb, average tare is 0.04 lb (box 13), MAV (box 3) is 0.07 lb, and SEL (box 23) is 0.023 lb.
Moisture content at time of pack was 13.4 % (packer data)
Moisture content at time of sale is 10.6 % (lab data)
Moisture loss is (13.4 % to 10.6 %) = 2.8 %
Moisture allowance is 0.028 x 2 lb = 0.056 lb
Moisture Corrected MAV is 0.07 lb + 0.056 lb = 0.126 lb – Compare each package error measured in the initial test to this moisture corrected MAV using criteria in box 16.
Moisture Corrected SEL is 0.023 lb + 0.056 lb = 0.079 lb – Compare the sample average error in the initial test to this moisture corrected SEL using criteria in box 24.

Discussion: One State believes that the explanations provided in Handbook 133 pertaining to moisture loss are inadequate. In reviewing this proposal the Committee considered the proposed additional language confusing, and inaccurate. The Committee does agree that the "Calculations" section on page 18 needs to do a better job of distinguishing between moisture allowances applied before testing and those applied after testing. The Committee

believes that there are extensive problems with this proposal as submitted. NIST has agreed to review the moisture loss section of Handbook 133 to see if it can be written more clearly. The Committee has withdrawn this item.

Background: The following information was provided by the original proponent of this item: The products that have established moisture allowances are not clearly stated. Currently the Handbook only poses the question "What is the moisture allowance for flour and dry pet food?" It does not state if any other products have moisture allowances. In addition, the Handbook gives no guidance on what to do for products that do not have an established moisture allowance.

The "Calculations" section on page 18 is confusing and does not distinguish between applying a moisture allowance before or after testing. The current method of comparing the moisture allowance to the difference between the average error and the SEL is confusing. The current Handbook does not address commodities that are packed in sealed containers or how to treat commodities packed on the premises.

260-4 I Amend § 2.3 Basic Test Procedure, and Table 2-5

(This item was returned to the Committee for further study.)

Source: Central Weights and Measures Association (CWMA).

Recommendation: The Committee will grant NIST editorial privileges to amend Handbook 133 § 2.3 as follows:

Where are Maximum Allowable Variations found?

Find the MAV values for packages labeled by weight, volume, count, and measure in the tables listed below in Appendix A.

Packages labeled by weight	See Table 2-5
Packages labeled by volume liquid or dry	See Table 2-6
Packages labeled by count	See Table 2-7
Packages labeled by length (width), or area	See Table 2-8
Packages ~~**labeled with**~~ **bearing a** USDA seal of inspection - Meat and Poultry **when labeled weight is provided by the USDA inspected facility**	See Table 2-9
Textiles, polyethylene sheeting and film, mulch and soil labeled by volume, packaged firewood, and packages labeled by count with less than 50 items	See Table 2-10

Amend the Header of Table 2-5 as follows:

Table 2-5. Maximum Allowable Variations (MAVs) for Packages Labeled by Weight
~~**Do Not Use This Table f**~~**F**or Meat and Poulty Products ~~**subject to USDA Regulations**~~ **When Labeled Weight is Provided By USDA Inspected Facility** – Use Table 2-9
For Polyethylene Sheeting and Film, see Table 2-10. Exceptions to the MAVs.

Discussion: The committee believes that when packages of meat and poultry are labeled with net weights by USDA inspected facilities, they are subject to the MAVs found in Table 2-9 as established by the USDA. When packages from USDA inspected facilities are labeled with net weights after they leave the inspected facility (e.g., at the meat department of a supermarket), they are subject to the MAVs found in Table 2-5. This proposal is intended to clarify under which circumstances the Table 2-9 MAVs apply. The Committee considers this an editorial change.

260-5 I Amend § 3.2 Gravimetric Test Procedure for Liquids

(This item adopted with report.)

Source: Central Weights and Measures Association (CWMA).

Recommendation: The Committee will grant NIST editorial privileges to amend Handbook 133 § 3.2 Gravimetric Test Procedure for Liquids as follows:

3. For milk, select a volumetric measure equal to**, or one size smaller than** the label declaration. For all other products, select a volumetric measure that is one size smaller than the label declaration. For example, if testing a 1 L bottle of juice or soft drink, select a 500 mL volumetric measure.

Discussion: Currently, Handbook 133 can be interpreted to state that you must use a volumetric measure equal to the label declaration when testing milk. The previous 3rd Edition Section 4.7. allowed for the use of a smaller sized measure. Changes made between the 3rd and 4th editions of Handbook 133 regarding the selection of a volumetric measure for testing milk were unintentional; testing milk with a measure one size smaller than the label declaration has always been an acceptable option. The Committee considers this an editorial change.

260-6 I Amend § 3.11 and MAV Table 2-10

Source: Western Weights and Measures Association (WWMA).

Recommendation: Amend the application and header of Handbook 133 Table 2-10 as follows to allow the MAVs that apply to Mulch and Soil to also apply to similar products, such as Wood Shavings and Animal Bedding:

Table 2-10. Exceptions to the Maximum Allowable Variations for
Textiles, Polyethylene Sheeting and Film, Mulch ~~and,~~ Soil**, and Other Similar Products** Labeled by Volume,
Packaged Firewood, and
Packages Labeled by Count with Less than 50 Items

Amend Handbook 133 § 3.11 to read:

3.11. Mulch ~~and,~~ Soil**, and Other Similar Products** Labeled by Volume

Discussion: A manufacturer of wood fiber products feels that their wood shavings, labeled by volume, should receive the same MAVs as "Mulch and Soils," or possibly Peat Moss. The wood fiber product in question could conceivably be used in as many different applications as "Animal Bedding," "Insulation," "Mulch" (A Horticultural Above Ground Dressing), etc. The reasons for establishing expanded MAVs for Mulch and Soil may also apply to other similar products. Item 250-10, which was adopted at the 83rd National Conference on Weights and Measures in 1998, and was entitled "Bark Mulch, and Other Organic Products – Maximum Allowable Variations" discussed the reasoning and the necessity for expanded MAVs in certain circumstances.

The Committee is concerned, however, that the manufacturer who is seeking this additional allowance has not provided sufficient objective data to support their position. There is an established procedure for evaluating MAVs for products, and the procedure has not been followed by the manufacturer. The Committee feels this item needs to be further developed in conjunction with a regulatory agency so that the Committee will have reliable information upon which to base any decision.

In addition, concerns have been raised about the expansion of the mulch, soil and peat moss sections to “Other Similar Products.” What are “Other Similar Products?” Products that are used in similar applications? If so, and “Other Similar Products” is intended to extend to pet beddings made of wood shavings, should it also then be extended to pet beddings made of paper (also a wood product)? What about pet beddings made from other substances (clay, straw, etc)? It is believed that the language proposed is overly broad and needs to be better defined to capture the product under consideration without including products that should not have the larger MAV.

270 OTHER ITEMS

270-1 W Enhanced Product – USDA/FSIS Meat and Poultry Products

(This item was withdrawn.)

Source: Central Weights and Measures Association (CWMA). (See item 260-1 on page L&R-13 in the Report of the 86th NCWM Annual Meeting in 2001.)

Recommendation: The Committee reviewed the following proposal to have the NCWM:

(1) Establish a Working Group to study current market conditions for enhanced versus non-enhanced meat and poultry products, to determine the extent to which water and/or other added solutions are no longer retained in the product at the time of sale (i.e., are lost into the packaging material or are otherwise free-flowing) recognizing Federal regulations that are in place which govern labeling of such products; and

(2) Direct the Working Group to make recommendations to the Committee based on findings of the study concerning what is to be considered "reasonable moisture allowances" when conducting Handbook 133 inspections of enhanced meat and poultry products.

Discussion: This item was adopted in 2001, but has remained on the Committee's agenda pending the appointment of the Working Group by the NCWM Board of Directors. The NCWM Board of Directors decided to hold a Rountable session ont his issue instead of appointing a Working Group. The Committee has withdrawn this item.

D. Johannes, California, Chairman
J. Gomez, New Mexico
M. Gray, Florida
J. Cassidy, Cambridge, Massachusetts
V. Dempsey, Montgomery County, Ohio

V. Orr, ConAgra Foods, Associate Committee Representative

B. Lemon, Industry Canada, Technical Advisor
D. Hutchinson, Measurement Canada, Technical Advisor
K. Dresser, NIST, Technical Advisor

Committee on Laws and Regulations

Appendix A

Recommendation for 237-2
NIST Handbook 130: Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation

Uniform Engine Fuels, Petroleum Products,
and Automotive Lubricants Regulation

as adopted by
The National Conference on Weights and Measures*

1. Background

In 1984, the National Conference on Weights and Measures adopted section 2.20. in the Uniform Regulation for the Method of Sale of Commodities requiring motor fuel containing alcohol be labeled as such to disclose that information to the retail purchaser. The delegates deemed this action necessary since motor vehicle manufacturers were qualifying their warranties with respect to some gasoline-alcohol blends, motor fuel users were complaining to weights and measures officials about fuel quality and vehicle performance, and the American Society for Testing and Materials (ASTM) had not yet finalized quality standards for oxygenated (which includes alcohol-containing) fuels. While many argued that weights and measures officials should not cross the line from quantity assurance programs to programs regulating quality, the delegates were persuaded that the issue needed immediate attention.

A Motor Fuels Task Force was appointed in 1984 to develop mechanisms for achieving uniformity in the evaluation and regulation of motor fuels. The Task Force developed the Uniform Motor Fuel Inspection Law (see the Uniform Laws section of this Handbook) and the Uniform Motor Fuel Regulation to accompany the Law. The recommended Law required registration and certification of motor fuel as meeting ASTM standards. The regulation defined the ASTM standards to be applied to motor fuel.
In 1992 the NCWM established the Petroleum Subcommittee under the Laws and Regulations Committee. The subcommittee recommended major revisions to the Regulation that was adopted at the 80th NCWM in 1995. The scope of the regulation was expanded to include all engine fuels, petroleum products, and automotive lubricants; its title was changed accordingly; and the fuel specifications and method of sale sections were revised to address the additional products. Other changes included expansion of the definitions section and addition of sections on retail storage tanks, condemned product, registration of engine fuels designed for special use, and test methods and reproducibility limits.

2. Status of Promulgation

The Uniform Regulation for Engine Fuels, Petroleum Products, and Automotive Lubricants was adopted by the Conference in 1995. The status of State actions with respect to this Regulation is shown in the table beginning on page 8.

* *The National Conference on Weights and Measures is supported by the National Institute of Standards and Technology in partial implementation of its statutory responsibility for "cooperation with the States in securing uniformity in weights and measures laws and methods of inspection."*

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Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation

Section 1. Definitions

1.1. ASTM. - ~~**The American Society for Testing and Materials**~~ **ASTM International** means the **inter**national voluntary consensus standards organization formed for the development of standards on characteristics and performance of materials, products, systems, and services, and the promotion of related knowledge.

1.2. Antiknock Index (AKI). - AKI means the arithmetic average of the Research Octane Number (RON) and Motor Octane Number (MON): AKI = (RON+MON)/2. This value is called by a variety of names, in addition to antiknock index, including: octane rating, posted octane, (R+M)/2 octane.

1.3. Automatic Transmission Fluid. - Automatic Transmission Fluid means a product intended for use in a passenger vehicle, other than a bus, as either a lubricant, coolant, or liquid medium in any type of fluid automatic transmission, that contains a torque converter. For the purposes of this regulation, fluids intended for use in continuously variable transmissions are not considered "Automatic Transmission Fluid."

~~1.3.~~**1.4. Automotive Fuel Rating.** - Automotive Fuel Rating means the automotive fuel rating required under the amended Octane Certification and Posting Rule (or as amended, the Fuel Rating Rule), 16 CFR Part 306. Under this rule, sellers of liquid automotive fuels, including alternative fuels, must determine, certify, and post an appropriate automotive fuel rating. The automotive fuel rating for gasoline is the antiknock index (octane rating). The automotive fuel rating for alternative liquid fuels consists of the common name of the fuel, along with a disclosure of the amount, expressed as a minimum percentage by volume of the principal component of the fuel. For alternative liquid automotive fuels, a disclosure of other components, expressed as a minimum percentage by volume, may be included, if desired.

~~1.4.~~**1.5. Automotive Gasoline, Automotive Gasoline-Oxygenate Blend.** - Automotive Gasoline, Automotive Gasoline-Oxygenate Blend means a type of fuel suitable for use in spark-ignition automobile engines and also commonly used in marine and non-automotive applications.

~~1.5.~~**1.6. Aviation Gasoline.** - Aviation Gasoline means a type of gasoline suitable for use as a fuel in an aviation spark-ignition internal combustion engine.

~~1.6.~~**1.7. Aviation Turbine Fuel.** - Aviation Turbine Fuel means a refined middle distillate suitable for use as a fuel in an aviation gas turbine internal combustion engine.

~~1.7.~~**1.8. Base Gasoline.** - Base Gasoline means all components other than ethanol in a blend of gasoline and ethanol.

~~1.8.~~**1.9. Biodiesel.** - Biodiesel means a blend consisting of diesel fuel and a substantial amount of esterified animal fats and/or vegetable oil(s).

~~1.9.~~**1.10. Cetane Index.** - Cetane Index means an approximation of the cetane number of distillate diesel fuel, which does not contain a cetane improver additive, calculated from the density and distillation measurements.

~~1.10.~~**1.11. Cetane Number.** - Cetane Number means a numerical measure of the ignition performance of a diesel fuel obtained by comparing it to reference fuels in a standardized engine test.

~~1.11.~~**1.12. Compressed Natural Gas (CNG).** - CNG means natural gas which has been compressed and dispensed into fuel storage containers and is suitable for use as an engine fuel.

~~1.12.~~**1.13. Denatured Fuel Ethanol.** - Denatured Fuel Ethanol means "ethanol" as defined in § 1.19. below.

~~1.13.~~**1.14. Diesel Fuel.** - Diesel Fuel means a refined middle distillate suitable for use as a fuel in a compression-ignition (diesel) internal combustion engine.

~~1.14.~~**1.15. Distillate.** - Distillate means any product obtained by condensing the vapors given off by boiling petroleum or its products.

~~1.15.~~**1.16. EPA.** - EPA means the United States Environmental Protection Agency.

~~1.16.~~**1.17. E85 Fuel Ethanol.** - E85 Fuel Ethanol means a blend of ethanol and hydrocarbons of which the ethanol portion is nominally 85 to 75 volume percent denatured fuel ethanol.

~~1.17.~~**1.18. Engine Fuel.** - Engine Fuel means any liquid or gaseous matter used for the generation of power in an internal combustion engine.

~~1.18.~~**1.19. Engine Fuels Designed for Special Use.** - Engine Fuels Designed for Special Use means engine fuels designated by the Director as requiring registration. These fuels normally do not have ASTM or other national consensus standards applying to their quality or usability; common special fuels are racing fuels and those intended for agricultural and other off-road applications.

~~1.19.~~**1.20. Ethanol.** - Ethanol also known as "Denatured Fuel Ethanol," means nominally anhydrous ethyl alcohol meeting ASTM D 4806 standards. It is intended to be blended with gasoline for use as a fuel in a spark-ignition internal combustion engine. The denatured fuel ethanol is first made unfit for drinking by the addition of Bureau of Alcohol, Tobacco, and Firearms (BATF) approved substances before blending with gasoline.

~~1.20.~~**1.21. Fuel Oil.** - Fuel Oil means a refined oil middle distillates, heavy distillates, or residues of refining, or blends of these, suitable for use as a fuel for heating or power generation, the classification of which shall be defined by ASTM D 396.

~~1.21.~~**1.22. Gasoline.** - Gasoline means a volatile mixture of liquid hydrocarbons generally containing small amounts of additives suitable for use as a fuel in a spark-ignition internal combustion engine.

~~1.22.~~**1.23. Gasoline-Alcohol Blend.** - Gasoline-Alcohol Blend means a fuel consisting primarily of gasoline and a substantial amount (more than 0.35 mass percent of oxygen, or more than 0.15 mass percent of oxygen if methanol is the only oxygenate) of one or more alcohols.

~~1.23.~~**1.24. Gasoline Gallon Equivalent (GGE).** - GGE means 2.567 kg (5.660 lb) of natural gas.

~~1.24.~~**1.25. Gasoline Liter Equivalent (GLE).** - GLE means 0.678 kg (1.495 lb) of natural gas.

~~1.25.~~**1.26. Gasoline-Oxygenate Blend.** - Gasoline-Oxygenate Blend means a fuel consisting primarily of gasoline along with a substantial amount (more than 0.35 mass percent of oxygen, or more than 0.15 mass of oxygen if methanol is the only oxygenate) of one or more oxygenates.

1.27. Gear Oil. - Gear Oil means an oil used to lubricate gears, axles, or some manual transmissions.

~~1.26.~~**1.28. Kerosene.** - Kerosene (or "Kerosine") means a refined middle distillate suitable for use as a fuel for heating or illuminating, the classification of which shall be defined by ASTM D 3699.

~~1.27.~~**1.29. Lead Substitute.** - Lead Substitute means an EPA-registered gasoline additive suitable, when added in small amounts to fuel, to reduce or prevent exhaust valve recession (or seat wear) in automotive spark-ignition internal combustion engines designed to operate on leaded fuel.

~~1.28.~~**1.30. Lead Substitute Engine Fuel.** - Lead Substitute Engine Fuel means, for labeling purposes, a gasoline or gasoline-oxygenate blend that contains a "lead substitute."

~~1.29.~~**1.31. Leaded.** - Leaded means, for labeling purposes, any gasoline or gasoline-oxygenate blend which contains more than 0.013 g of lead per liter (0.05 g lead per U.S. gal). NOTE: EPA defines leaded fuel as one which contains more than 0.0013 g of phosphorus per liter (0.005 g per U.S. gal), or any fuel to which lead or phosphorus is intentionally added.

~~1.30.~~**1.32. Liquefied Natural Gas (LNG).** - LNG means natural gas that has been liquefied at -126.1 EC (-259 EF) and stored in insulated cryogenic tanks for use as an engine fuel.

~~1.31.~~**1.33. Liquefied Petroleum Gas (LPG).** - LPG means a mixture of normally gaseous hydrocarbons, predominantly propane, or butane, or both, that has been liquefied by compression or cooling, or both to facilitate storage, transport, and handling.

~~1.32.~~**1.34. Low Sulfur.** - Low Sulfur means low sulfur diesel fuel that meets ASTM D 975 (e.g., Grade Low Sulfur No. 1-D or Grade Low Sulfur No. 2-D) standards. Diesel fuel containing higher amounts of sulfur for off-road use is defined by EPA regulations.

~~1.33.~~**1.35. Low Temperature Operability.** - Low Temperature Operability means a condition which allows the uninterrupted operation of a diesel engine through the continuous flow of fuel throughout its fuel delivery system at low temperatures. Fuels with adequate low temperature operability characteristics have the ability to avoid wax precipitation and clogging in fuel filters.
(Added 1998)(Amended 1999)

~~1.34.~~**1.36. Lubricity.** - Lubricity a qualitative term describing the ability of a fluid to affect friction between, and wear to, surfaces in relative motion under load. (Added 2003)

~~1.35.~~**1.37. M100 Fuel Methanol.** - M100 Fuel Methanol means nominally anhydrous methyl alcohol, generally containing small amounts of additives, suitable for use as a fuel in a compression-ignition internal combustion engine.

~~1.36.~~**1.38. M85 Fuel Methanol.** - M85 Fuel Methanol means a blend of methanol and hydrocarbons of which the methanol portion is nominally 70 to 85 volume percent.

~~1.37.~~**1.39. Motor Octane Number.** - Motor Octane Number means a numerical indication of a spark-ignition engine fuel's resistance to knock obtained by comparison with reference fuels in a standardized ASTM D 2700 Motor Method engine test.

1.40. Motor Oil. - Motor Oil is an oil that reduces friction and wear between the moving parts within a reciprocating internal combustion engine and also serves as a coolant. For the purposes of this regulation, “vehicle motor oil” refers to a motor oil which is intended for use in light-to-heavy duty vehicles comprising cars, sport utility vehicles, vans, trucks, buses, and off-road farming and construction equipment. For the purposes of this regulation, “recreational motor oil” refers to a motor oil which is intended for use in four-stroke cycle engines used in motorcycles, ATVs, and lawn and garden equipment. For the purposes of this regulation motor oil also means engine oil.

1.41. Oil. - Oil means motor oil, engine oil, and/or gear oil.

~~1.38.~~**1.42. Oxygen Content of Gasoline.** - Oxygen Content of Gasoline means the percentage of oxygen by mass contained in a gasoline.

~~1.39.~~**1.43. Oxygenate.** - Oxygenate means an oxygen-containing, ashless, organic compound, such as an alcohol or ether, which can be used as a fuel or fuel supplement.

~~1.40.~~**1.44. Reformulated Gasoline.** - Reformulated Gasoline means a volatile mixture of liquid hydrocarbons and oxygenates meeting the reformulated gasoline requirements of the Clean Air Act Amendments of 1990 and suitable for use as a fuel in a spark-ignition internal combustion engine.

~~1.41.~~**1.45. Research Octane Number.** - Research Octane Number means a numerical indication of a spark-ignition engine fuel's resistance to knock obtained by comparison with reference fuels in a standardized ASTM D 2699 Research Method Engine Test.

~~1.42.~~**1.46. SAE.** - **SAE** means the Society of Automotive Engineers, a technical organization for engineers, scientists, technicians, and others in positions that cooperate closely in the engineering, design, manufacture, use, and maintainability of self-propelled vehicles.

~~1.43.~~**1.47. Substantially Similar.** - Substantially Similar means the EPA's "Substantially Similar" rule, Section 211 (f) (1) of the Clean Air Act [42 U.S.C. 7545 (f) (1)].

~~1.44.~~**1.48. Thermal Stability.** - Thermal Stability means the ability of a fuel to resist the thermal stress which is experienced by the fuel when exposed to high temperatures in a fuel delivery system. Such stress can lead to formation of insoluble gums or organic particulates. Insolubles (e.g., gums or organic particulates) can clog fuel filters and contribute to injector deposits.
(Added 1998)(Amended 1999)

~~1.45.~~**1.49. Total Alcohol.** - Total Alcohol means the aggregate total in volume percent of all alcohol contained in any fuel defined in this Chapter.

~~1.46.~~**1.50. Total Oxygenate.** - Total Oxygenate means the aggregate total in volume percent of all oxygenates contained in any fuel defined in this Chapter.

~~1.47.~~**1.51. Unleaded.** - Unleaded in conjunction with "engine fuel" or "gasoline" means any gasoline or gasoline-oxygenate blend to which no lead or phosphorus compounds have been intentionally added and which contains not more than 0.013 gram of lead per liter (0.05 g lead per U.S. gal) and not more than 0.0013 gram of phosphorus per liter (0.005 g phosphorus per U.S. gal).

~~1.48.~~**1.52. Wholesale Purchaser Consumer.** - Wholesale Purchaser Consumer means any person who is an ultimate gasoline consumer of fuel methanol, fuel ethanol, diesel fuel, biodiesel, fuel oil, kerosene, aviation turbine fuels, natural gas, compressed natural gas, or liquefied petroleum gas and who purchases or obtains the product from a supplier and receives delivery of that product into a storage tank.
(Added 1998)(Amended 1999)

Section 2. Standard Specifications

2.1. Gasoline and Gasoline-Oxygenate Blends (as defined in this regulation) shall meet the following requirements:

2.1.1. The most recent version of ASTM D 4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," except that volatility standards for unleaded gasoline blended with ethanol shall not be more restrictive than those adopted under the rules, regulations, and Clean Air Act waivers of the U.S. Environmental Protection Agency (which includes rules promulgated by the State). Gasoline blended with ethanol shall be blended under any of the following three options:

2.1.1.1. The base gasoline used in such blends shall meet the requirements of ASTM D 4814, or

2.1.1.2. The blend shall meet the requirements of ASTM D 4814, or

2.1.1.3. The base gasoline used in such blends shall meet all the requirements of ASTM D 4814 except distillation, and the blend shall meet the distillation requirements of the ASTM specification.

2.1.2. Blends of gasoline and ethanol shall not exceed the ASTM D 4814 vapor pressure standard by more than 1.0 psi.

2.1.3. Minimum Antiknock Index (AKI). - The AKI shall not be less than the AKI posted on the product dispenser or as certified on the invoice, bill of lading, shipping paper, or other documentation;

2.1.4. Minimum Motor Octane Number. - The minimum motor octane number shall not be less than 82 for gasoline with an AKI of 87 or greater;

2.1.5. Minimum Lead Content to Be Termed "Leaded". - Gasoline and gasoline-oxygenate blends sold as "leaded" shall contain a minimum of 0.013 gram of lead per liter (0.05 g per U.S. gal);

2.1.6. Lead Substitute Gasoline. - Gasoline and gasoline-oxygenate blends sold as "lead substitute" gasoline shall contain a lead substitute which provides protection against exhaust valve seat recession equivalent to at least 0.026 gram of lead per liter (0.10 g per U.S. gal).

2.1.6.1. Documentation of Exhaust Valve Seat Protection. - Upon the request of the director, the lead substitute additive manufacturer shall provide documentation to the director that demonstrates that the treatment level recommended by the additive manufacturer provides protection against exhaust valve seat recession equivalent to or better than 0.026 gram per liter (0.1 g/gal) lead. The director may review the documentation and approve the lead substitute additive before such additive is blended into gasoline. This documentation shall consist of:

2.1.6.1.1. Test results as published in the Federal Register by the EPA Administrator as required in Section 211(f)(2) of the Clean Air Act; or

2.1.6.1.2. Until such time as the EPA Administrator develops and publishes a test procedure to determine the additive's effectiveness in reducing valve seat wear, test results and description of the test procedures used in comparing the effectiveness of 0.026 gram per liter lead and the recommended treatment level of the lead substitute additive shall be provided.

2.1.7. Blending. - Leaded, lead substitute, and unleaded gasoline-oxygenate blends shall be blended according to the EPA "substantially similar" rule or an EPA waiver for unleaded fuel.

2.2. Diesel Fuel shall meet the most recent version of ASTM D 975, "Standard Specification for Diesel Fuel Oils."

2.2.1. Premium Diesel Fuel. - All diesel fuels identified on retail dispensers, bills of lading, invoices, shipping papers, or other documentation with terms such as premium, super, supreme, plus, or premier must conform to the following requirements:

(a) Cetane Number. - A minimum cetane number of 47.0 as determined by ASTM Standard Test Method D 613.

(b) Low Temperature Operability. - A cold flow performance measurement which meets the ASTM D 975 tenth percentile minimum ambient air temperature charts and maps by either ASTM Standard Test Method D 2500 (Cloud Point) or ASTM Standard Test Method D 4539 (Low Temperature Flow Test, LTFT). Low temperature operability is only applicable October 1 - March 31 of each year.

(c) Thermal Stability. - A minimum reflectance measurement of 80 % as determined by ASTM Standard Test Method D 6468 (180 minutes, 150 °C).

(d) Lubricity. - A maximum wear scar diameter of 520 microns as determined by ASTM D 6079. If an enforcement jurisdiction’s single test of more than 560 microns is determined, a second test shall be conducted. If the average of the two tests is more than 560 microns, the sample does not conform to the requirements of this part.

(Amended 2003)

2.3. Aviation Turbine Fuels shall meet the most recent version of ASTM D 1655, "Standard Specification for Aviation Turbine Fuels."

2.4. Aviation Gasoline shall meet the most recent version of ASTM D 910, "Standard Specification for Aviation Gasoline."

2.5. Fuel Oils shall meet the most recent version of ASTM D 396, "Standard Specification for Fuel Oils."

2.6. Kerosene (Kerosine) shall meet the most recent version of ASTM D 3699, "Standard Specification for Kerosine."

2.7. Ethanol intended for blending with gasoline shall meet the most recent version of ASTM D 4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel."

2.8. Liquefied Petroleum (LP) Gases shall meet ASTM D 1835, "Standard Specification for Liquefied Petroleum (LP) Gases."

Note: Also reference Gas Processors Association 2140, "Liquefied Petroleum Gas Specification and Test Methods."

2.9. Compressed Natural Gas (CNG) shall meet the most recent version of SAE J 1616, "Recommended Practice for Compressed Natural Gas Vehicle Fuel."

2.10. E85 Fuel Ethanol shall meet the most recent version of ASTM D 5798, "Standard Specification for Fuel Ethanol (Ed75-Ed85) for Automotive Spark-Ignition Engines."
(Added 1997)

2.11. M85 Fuel Methanol shall meet the most recent version of ASTM D 5797, "Standard Specification for Fuel Methanol M70-M85 for Automotive Spark Ignition Engines."
(Added 1997)

2.12. Motor Oil shall not be sold or distributed for use unless the product conforms to the following specifications:

(a) Performance claims listed on the label shall be evaluated against SAE J183, API 1509 Engine Oil Licensing and Certification System, or other industry standards as applicable.

(b) It shall meet its labeled viscosity grade specification as specified in the latest published version of SAE J300.

(c) Any engine oil that is represented as "energy conserving" shall meet the requirements established by the latest revision of SAE J1423.

2.13. Products for Use in Lubricating Manual Transmission, Gears, or Axles shall not be sold or distributed for use in lubricating manual transmissions, gears, or axles unless the product conforms to the following specifications:

(a) It is labeled with one or more of the service designations found in the latest revision of the SAE Information Report on axle and manual transmission lubricants SAE J308 and API Publication 1560, or other industry standards as appropriate, and meets all applicable requirements of those designations.

(b) The product shall meet its labeled viscosity grade classification as specified in the latest published version of SAE J306 or SAE J300, as applicable.

(c) It shall be free from water and suspended matter when tested by means of centrifuge, in accordance with the standard test ASTM D 2273.

2.14. Products for Use in Lubricating Automatic Transmissions. - Any automatic transmission fluid sold without limitation as to type of transmission for which it is intended, shall meet all automotive manufacturers' recommended requirements for transmissions in general use in the state. Automatic transmission fluids that are intended for use only in certain transmissions, as disclosed on the label of its container, shall meet the latest automotive manufacturers' recommended requirements for those transmissions. Adherence to automotive manufacturers recommended requirements shall be based on test currently available to the lubricants industry and the state regulatory agency.

Any material offered for sale or sold as an additive to automatic transmission fluids shall be compatible with the automatic transmission fluid to which it is added, and shall meet all performance claims as stated on the label. Any manufacturer of any such product sold in this state shall provide, upon request by a duly authorized representative of the Director, documentation of any claims made on their product label.

Section 3. Classification and Method of Sale of Petroleum Products

3.1. General Considerations.

3.1.1. Documentation. - When gasoline, gasoline-oxygenate blends, reformulated gasoline, M85 and M100 fuel methanol, E85 and E100 fuel ethanol, liquefied petroleum (LP) gases, compressed natural gas, liquefied natural gas, biodiesel, diesel fuel, kerosene, aviation gasoline, aviation turbine fuels, or fuel oils are sold, an invoice, bill of lading, shipping paper or other documentation must accompany each delivery other than a retail sale. This document must identify the quantity, the name of the product, the particular grade of the product, the applicable automotive fuel rating, and oxygenate type and content (if applicable), the name and address of the seller and buyer, and the date and time of the sale. Documentation must be retained at the retail establishment for a period not less than one year.

3.1.2. Retail Dispenser Labeling. - All retail dispensing devices must identify conspicuously the type of product, the particular grade of the product, and the applicable automotive fuel rating.

3.1.3. Grade Name. - The sale of any product under any grade name that indicates to the purchaser that it is of a certain automotive fuel rating or ASTM grade shall not be permitted unless the automotive fuel rating or grade indicated in the grade name is consistent with the value and meets the requirements of Section 2, Standard Fuel Specifications.

3.2. Automotive Gasoline and Automotive Gasoline-Oxygenate Blends.

3.2.1. Posting of Antiknock Index Required. - All automotive gasoline and automotive gasoline-oxygenate blends shall post the antiknock index in accordance with applicable regulations, 16 CFR Part 306 issued pursuant to the Petroleum Marketing Practices Act, as amended.

3.2.2. When the Term "Leaded" may be Used. - The term "leaded" shall only be used when the fuel meets specification requirements of paragraph 2.1.5.

3.2.3. Use of Lead Substitute must be Disclosed. - Each dispensing device from which gasoline or gasoline-oxygenate blends containing a lead substitute is dispensed shall display the following legend: "Contains Lead Substitute." The lettering of this legend shall not be less than 12 mm (1/2 in) in height and the color of the lettering shall be in definite contrast to the background color to which it is applied.

3.2.4. Nozzle Requirements for Leaded Fuel. - Each dispensing device from which gasoline or gasoline-oxygenate blends that contain lead in amounts sufficient to be considered "leaded" gasoline, or lead substitute engine fuel, is sold shall be equipped with a nozzle spout having a terminal end with an outside diameter of not less than 23.63 mm (0.930 in).

3.2.5. Prohibition of Terms. - It is prohibited to use specific terms to describe a grade of gasoline or gasoline-oxygenate blend unless it meets the minimum antiknock index requirement shown in Table 1.

3.2.6. Method of Retail Sale - Type of Oxygenate must be Disclosed. - All automotive gasoline or automotive gasoline-oxygenate blends kept, offered, or exposed for sale, or sold at retail containing at least 1.5 mass percent oxygen shall be identified as "with" or "containing" (or similar wording) the predominant oxygenate in the engine fuel. For example, the label may read "contains ethanol" or "with MTBE." The oxygenate contributing the largest mass percent oxygen to the blend shall be considered the predominant oxygenate. Where mixtures of only ethers are present, the retailer may post the predominant oxygenate followed by the phrase "or other ethers" or alternatively post the phrase "contains MTBE or other ethers." In addition, gasoline-methanol blend fuels containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This information shall be posted on the upper 50 % of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (½ in) in height, 1.5 mm (1/16 in) stroke (width of type).
(Amended 1996)

3.2.7. Documentation for Dispenser Labeling Purposes. - The retailer shall be provided, at the time of delivery of the fuel, on an invoice, bill of lading, shipping paper, or other documentation, a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify either the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen) or, alternatively, use the phrase "contains MTBE or other ethers." In addition, any gasoline containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This documentation is only for dispenser labeling purposes; it is the responsibility of any potential blender to determine the total oxygen content of the engine fuel before blending. (Amended 1996)

3.3. Diesel Fuel.

3.3.1. Labeling of Grade Required. - Diesel Fuel shall be identified by grades No. 1-D, No. 1-D (low sulfur), No. 2-D, No. 2-D (low sulfur), or No. 4-D. Each retail dispenser of diesel fuel shall be labeled according to the grade being dispensed except the words "low sulfur" are not required.

3.3.2. Location of Label. - These labels shall be located on the upper 50 % of the dispenser front panel in a position clear and conspicuous from the driver's position, in a type at least 12 mm (1/2 in) in height, 1.5 mm (1/16 in) stroke (width of type).

3.3.3. Delivery Documentation. - Before or at the time of delivery of premium diesel fuel, the retailer or the wholesale purchaser-consumer shall be provided on an invoice, bill of lading, shipping paper, or other documentation a declaration of all performance properties that qualifies the fuel as premium diesel fuel as required in § 2.2.1.
(Added 1998; Amended 1999)

Table 1. Minimum Antiknock Index Requirements

Term	Minimum Antiknock Index	
	ASTM D 4814 Altitude Reduction Areas IV and V	All Other ASTM D 4814 Areas
Premium, Super, Supreme, High Test	90	91
Midgrade, Plus	87	89
Regular Leaded	86	88
Regular, Unleaded (alone)	85	87
Economy	--	86

(Table Amended 1997)

3.4. Aviation Turbine Fuels.

3.4.1. Labeling of Grade Required. - Aviation turbine fuels shall be identified by Jet A, Jet A-1, or Jet B.

3.4.2. NFPA Labeling Requirements also Apply. - Each dispenser or airport fuel truck dispensing aviation turbine fuels shall be labeled in accordance with the most recent edition of National Fire Protection Association NFPA 407, "Standard for Aircraft Fuel Servicing." NFPA 407, 1990 Edition: Section 2-3.18 Product Identification Signs. Each aircraft fuel servicing vehicle shall have a sign on each side and the rear to indicate the product. The sign shall have letters at least 3 inches (75 mm) high of color sharply contrasting with its background for visibility. It shall show the word "FLAMMABLE" and the name of the product carried, such as "JET A," "JET B," "GASOLINE," or "AVGAS." (NOTE: Refer to the most recent edition.)

3.5. Aviation Gasoline.

3.5.1. Labeling of Grade Required. - Aviation gasoline shall be identified by Grade 80, Grade 100, or Grade 100LL.

3.5.2. NFPA Labeling Requirements also Apply. - Each dispenser or airport fuel truck dispensing aviation gasoline shall be labeled in accordance with the most recent edition of National Fire Protection Association (NFPA) 407, "Standard for Aircraft Fuel Servicing." NFPA 407, 1990 Edition: Section 2-3.18 Product Identification Signs. Each aircraft fuel servicing vehicle shall have a sign on each side and the rear to indicate the product. The sign shall have letters at least 3 inches (75 mm) high of color sharply contrasting with its background for visibility. It shall show the word "FLAMMABLE" and the name of the product carried, such as "JET A," "JET B," "GASOLINE," or "AVGAS." (NOTE: Refer to the most recent edition.)

3.6. Fuel Oils.

3.6.1. Labeling of Grade Required. - Fuel Oil shall be identified by the grades of No. 1, No. 2, No. 4 (Light), No. 4, No. 5 (Light), No. 5 (Heavy), or No. 6.

3.7. Kerosene (Kerosine).

3.7.1. Labeling of Grade Required. - Kerosene shall be identified by the grades No. 1-K or No. 2-K.

3.7.2. Additional Labeling Requirements. - Each retail dispenser of kerosene shall be labeled as 1-K Kerosene or 2-K. In addition, No. 2-K dispensers shall display the following legend:

"Warning - Not Suitable For Use In Unvented Heaters Requiring No. 1-K."

The lettering of this legend shall not be less than 12 mm (1/16 in) in height by 1.5 mm (1/16 in) stroke; block style letters and the color of lettering shall be in definite contrast to the background color to which it is applied.

3.8. Fuel Ethanol.

3.8.1. How to Identify Fuel Ethanol. - Fuel ethanol shall be identified by the capital letter E followed by the numerical value volume percentage. (Example: E85)

3.8.2. Retail Dispenser Labeling. - Each retail dispenser of fuel ethanol shall be labeled with the capital letter E followed by the numerical value volume percent denatured ethanol and ending with the word "ethanol." (Example: E85 Ethanol)

3.8.3. Additional Labeling Requirements. - Fuel ethanol shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

3.9. Fuel Methanol.

3.9.1. How Fuel Methanol is to be Identified. - Fuel methanol shall be identified by the capital letter M followed by the numerical value volume percentage of methanol. (Example: M85)

3.9.2. Retail Dispenser Labeling. - Each retail dispenser of fuel methanol shall be labeled by the capital letter M followed by the numerical value volume percent and ending with the word "methanol." (Example: M85 Methanol)

3.9.3. Additional Labeling Requirements. - Fuel methanol shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

3.10. Liquefied Petroleum (LP) Gas.

3.10.1. How LPG is to be Identified. - Liquefied petroleum gases shall be identified by grades Commercial Propane, Commercial Butane, Commercial PB Mixtures or Special-Duty Propane (HD5).

3.10.2. Retail Dispenser Labeling. - Each retail dispenser of liquefied petroleum gases shall be labeled as "Commercial Propane," "Commercial Butane," "Commercial PB Mixtures," or "Special-Duty Propane (HD5)."

3.10.3. Additional Labeling Requirements. - Liquefied petroleum gas shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

3.10.4. NFPA Labeling Requirements also apply. (Refer to the most recent edition of NFPA 58.)

3.11. Compressed Natural Gas.

3.11.1. How Compressed Natural Gas is to be Identified. - For the purposes of this regulation, compressed natural gas shall be identified by the term "Compressed Natural Gas" or "CNG."

3.11.2. Retail Sales of Compressed Natural Gas Sold as a Vehicle Fuel.

3.11.2.1. Method of Retail Sale. - All compressed natural gas kept, offered, or exposed for sale or sold at retail as a vehicle fuel shall be in terms of the gasoline liter equivalent (GLE) or gasoline gallon equivalent (GGE).

3.11.2.2. Retail Dispenser Labeling.

3.11.2.2.1. Identification of Product. - Each retail dispenser of compressed natural gas shall be labeled as "Compressed Natural Gas."

3.11.2.2.2. Conversion Factor. - All retail compressed natural gas dispensers shall be labeled with the conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have either the statement "1 Gasoline Liter Equivalent (GLE) is equal to 0.678 kg of Natural Gas" or "1 Gasoline Gallon Equivalent (GGE) is equal to 5.660 lb of Natural Gas" consistent with the method of sale used.

3.11.2.2.3. Pressure. - CNG is dispensed into vehicle fuel containers with working pressures of 16 574 kPa, 20 684 kPa, or 24 821 kPa. The dispenser shall be labeled 16 574 kPa, 20 684 kPa, or 24 821 kPa corresponding to the pressure of the CNG dispensed by each fueling hose.

3.11.2.2.4. NFPA Labeling. - NFPA Labeling requirements also apply. (Refer to NFPA 52.)

3.11.3. Nozzle Requirements for CNG. - CNG fueling nozzles shall comply with ANSI/AGA/CGA NGV 1.

3.12. Liquefied Natural Gas.

3.12.1. How Liquefied Natural Gas is to be Identified. - For the purposes of this regulation, liquefied natural gas shall be identified by the term "Liquefied Natural Gas" or "LNG."

3.12.2. Labeling of Retail Dispensers of Liquefied Natural Gas Sold as a Vehicle Fuel.

3.12.2.1. Identification of Product. - Each retail dispenser of liquefied natural gas shall be labeled as "Liquefied Natural Gas."

3.12.2.2. Automotive Fuel Rating. - LNG automotive fuel shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

3.12.2.3. NFPA Labeling. - NFPA Labeling requirements also apply. (Refer to NFPA 57.)

3.13. Oil. - Each label for recreational motor oil and vehicle motor oil shall contain the viscosity grade classification preceded by the letters "SAE" in accordance with the SAE International's latest version of SAE J300, and its intended use.

Each label for gear oil shall contain the viscosity grade classification preceded by the letters "SAE" in accordance with the SAE International's latest version of SAE J306 or SAE J300. (Exception: Some automotive equipment manufacturers may not necessarily specify an "SAE" viscosity grade requirement for some applications. Gear oils intended to be used only in such applications are not required to contain an "SAE Viscosity Grade" on their labels.)

The label on each container of vehicle motor oil shall contain the engine service categories met in letters not less than one-eighth inch (3.18 mm) in height, as defined by the latest version of SAE J183 or API Publication 1509, Engine Oil Licensing and Certification System.

The label on each container of gear oil shall contain the service categories met in letters not less than one-eighth inch (3.18 mm) in height, as defined by the latest version of SAE J308.

Each container of engine vehicle motor oil with a volume of one gallon or less that does not meet an active service category, as defined by the latest version of SAE J183, shall bear a plainly visible cautionary statement in compliance with SAE J183, Appendix A, for obsolete API oil categories.

3.14. Automatic Transmission Fluid. - Automatic transmission fluid shall be deemed to be mislabeled if any of the following occurs:

(a) The container does not bear a label on which is printed the brand name, the name and place of business of the manufacturer, packer, seller, or distributor, the words "Automatic Transmission Fluid," and the duty type of classification.

(b) The container does not bear a label on which is printed an accurate statement of the quantity of the contents in terms of liquid measure.

(c) The labeling on the container is false or misleading.

3.14.1. Documentation of Claims Made Upon Products' Label. - Any manufacturer or packager of any product subject to this article and sold in this State shall provide, upon request to duly authorized representatives of the Director, documentation of any claim made upon their products' label.

Section 4. Retail Storage Tanks

4.1. Water in Gasoline-Alcohol Blends, Aviation Gas, and Aviation Turbine Fuel. - No water phase greater than 6 mm (1/4 in) as determined by an appropriate detection paste, is allowed to accumulate in any tank utilized in the storage of gasoline-alcohol blend, aviation gasoline, and aviation turbine fuel.

4.2. Water in Gasoline, Diesel, Gasoline-Ether, and Other Fuels. - Water shall not exceed 50 mm (2 in) in depth when measured with water indicating paste in any tank utilized in the storage of biodiesel, diesel, gasoline, gasoline-ether blends, and kerosene sold at retail except as required in § 4.1.

4.3. Product Storage Identification.

4.3.1. Fill Connection Labeling. - The fill connection for any petroleum product storage tank or vessel supplying engine-fuel devices shall be permanently, plainly, and visibly marked as to the product contained.

4.3.2. Declaration of Meaning of Color Code. - When the fill connection device is marked by means of a color code, the color code shall be conspicuously displayed at the place of business.

4.4. Volume of Product Information. - Each retail location shall maintain on file a calibration chart or other means of determining the volume of each regulated product in each storage tank and the total capacity of such storage tank(s). This information shall be supplied immediately to the Director.

Section 5. Condemned Product

5.1. Stop-Sale Order at Retail. - A stop-sale order may be issued to retail establishment dealers for fuels failing to meet specifications or when a condition exists that causes product degradation. A release from a stop-sale order will be awarded only after final disposition has been agreed upon by the Director. Confirmation of disposition shall be submitted in writing on form(s) provided by the Director and contain an explanation for the fuel's failure to meet specifications. Upon discovery of fuels failing to meet specifications, meter readings and physical inventory shall be taken and reported in confirmation for disposition. Specific variations or exemptions may be made for fuels designed for special equipment or services and for which it can be demonstrated that the distribution will be restricted to those uses.

5.2. Stop-Sale Order at Terminal or Bulk Plant Facility. - A stop-sale order may be issued when products maintained at terminals or bulk plant facilities fail to meet specifications or when a condition exists that may cause product degradation. The terminal or bulk storage plant shall immediately notify all customers that received those product(s) and make any arrangements necessary to replace or adjust to specifications those product(s). A release from a stop-sale order will be awarded only after final disposition has been agreed upon by the Director. Confirmation of disposition of products shall be made available in writing to the Director. Specific variations or exemptions may be made for fuels used for blending purposes or designed for special equipment or services and for which it can be demonstrated that the distribution will be restricted to those uses.

Section 6. Product Registration

6.1. Engine Fuels Designed for Special Use. - All engine fuels designed for special use that do not meet ASTM specifications or standards addressed in Section 2 shall be registered with the Director on forms prescribed by the Director 30 days prior to when the registrant wishes to engage in sales. The registration form shall include all of the following information:

6.1.1. Identity. - Business name and address(es).

6.1.2. Address. - Mailing address if different than business address.

6.1.3. Business Type. - Type of ownership of the distributor or retail dealer, such as an individual, partnership, association, trust, corporation, or any other legal entity or combination thereof.

6.1.4. Signature. - An authorized signature, title, and date for each registration.

6.1.5. Product Description. - Product brand name and product description.

6.1.6. Product Specification. - A product specification sheet shall be attached.

6.2. Renewal. - Registration is subject to annual renewal.

6.3. Re-registration. - Re-registration is required 30 days prior to any changes in Section 6.1.

6.4. Authority to Deny Registration. - The Director may decline to register any product that actually or by implication would deceive or tend to deceive a purchaser as to the identity or the quality of the engine fuel.

6.5. Transferability. - The registration is not transferable.

Section 7. Test Methods and Reproducibility Limits

7.1. ASTM Standard Test Methods. - ASTM Standard Test Methods referenced for use within the applicable Standard Specification shall be used to determine the specification values for enforcement purposes.

7.1.1. Premium Diesel. - The following test methods shall be used to determine compliance with the premium diesel parameters:

(a) Cetane Number - ASTM D 613

(b) Low Temperature Operability - ASTM D 4539 or ASTM D 2500 (according to marketing claim)

(c) Thermal Stability - ASTM D 6468 (180 minutes, 150 °C)

(d) Lubricity - ASTM D 6079

(Amended 2003)

7.2. Reproducibility Limits.

7.2.1. AKI Limits. - When determining the antiknock index (AKI) acceptance or rejection of a gasoline sample, the AKI reproducibility limits as outlined in ASTM D 4814 Appendix X1 shall be acknowledged for enforcement purposes.

7.2.2. Reproducibility. - The reproducibility limits of the ASTM standard test method used for each test performed shall be acknowledged for enforcement purposes, except as indicated in § 7.2.1.

7.2.3. Dispute Resolution. - In the event of a dispute over a reported test value, the guidelines presented in the most recent version of ASTM D 3244, "Standard Practice for Utilization of Test Data to Determine Conformance with Specifications," shall be used to determine the acceptance or rejection of the sample.

Appendix B

Recommendation for 260-1
NIST Handbook 133: Edit Appendix A. Tables 2-5, 2-6, 2-8, and 2-10

Table 2-5. Maximum Allowable Variations (MAVs) for Packages Labeled by Weight Do Not Use This Table for Meat and Poultry Products Subject to USDA Regulations – Use Table 2-9. For Polyethylene Sheeting and Film, see Table 2-10. Exceptions to the MAVs	
Labeled Quantity	**Maximum Allowable Variations**
Less than 36 g, 0.08 lb, or 1.28 oz	10 % of labeled quantity
36 g or more to 54 g **0.08 lb or more to 0.12 lb** 1.28 oz or more to 1.92 oz	3.6 g **0.008 lb** 1/8 oz
More than 54 g to 81 g **More than 0.12 lb to 0.18 lb** More than 1.92 oz to 2.88 oz	5.4 g **0.012 lb** 3/16 oz
More than 81 g to 117 g **More than 0.18 lb to 0.26 lb** More than 2.88 oz to 4.16 oz	7.2 g **0.016 lb** 1/4 oz
More than 117 g to 154 g **More than 0.26 lb to 0.34 lb** More than 4.16 oz to 5.44 oz	9.0 g **0.020 lb** 5/16 oz
More than 154 g to 208 g **More than 0.34 lb to 0.46 lb** More than 5.44 oz to 7.36 oz	10.8 g **0.024 lb** 3/8 oz
More than 208 g to 263 g **More than 0.46 lb to 0.58 lb** More than 7.36 oz to 9.28 oz	12.7 g **0.028 lb** 7/16 oz
More than 263 g to 317 g **More than 0.58 lb to 0.70 lb** More than 9.28 oz to 11.20 oz	14.5 g **0.032 lb** ½ oz
More than 318 g to 381 g **More than 0.70 lb to 0.84 lb** More than 11.20 oz to 13.44 oz	16.3 g **0.036 lb** 9/16 oz
More than 381 g to 426 g **More than 0.84 lb to 0.94 lb** More than 13.44 oz to 15.04 oz	18.1 g **0.040 lb** 5/8 oz
More than 426 g to 489 g **More than 0.94 lb to 1.08 lb** More than 15.04 oz to 17.28 oz	19.9 g **0.044 lb** 11/16 oz
More than 489 g to 571 g More than 1.08 lb to 1.26 lb	21.7 g 0.048 lb
More than 571 g to 635 g More than 1.26 lb to 1.40 lb	23.5 g 0.052 lb
More than 635 g to 698 g More than 1.40 lb to 1.54 lb	25.4 g 0.056 lb
More than 698 g to 771 g More than 1.54 lb to 1.70 lb	27.2 g 0.060 lb
More than 771 g to 852 g More than 1.7 lb to 1.88 lb	29.0 g 0.064 lb
More than 852 g to 970 g More than 1.88 lb to 2.14 lb	31.7 g 0.070 lb

Table 2-5. Maximum Allowable Variations (MAVs) for Packages Labeled by Weight Do Not Use This Table for Meat and Poultry Products Subject to USDA Regulations – Use Table 2-9. For Polyethylene Sheeting and Film, see Table 2-10. Exceptions to the MAVs	
Labeled Quantity	**Maximum Allowable Variations**
More than 970 g to 1.12 kg More than 2.14 lb to 2.48 lb	35.3 g 0.078 lb
More than 1.12 kg to 1.25 kg More than 2.48 lb to 2.76 lb	39.0 g 0.086 lb
More than 1.25 kg to 1.45 kg More than 2.76 lb to 3.20 lb	42.6 g 0.094 lb
More than 1.45 kg to 1.76 kg More than 3.20 lb to 3.90 lb	49 g 0.11 lb
More than 1.76 kg to 2.13 kg More than 3.90 lb to 4.70 lb	54 g 0.12 lb
More than 2.13 kg to 2.63 kg More than 4.70 lb to 5.80 lb	63 g 0.14 lb
More than 2.63 kg to 3.08 kg More than 5.80 lb to 6.80 lb	68 g 0.15 lb
More than 3.08 kg to 3.58 kg More than 6.80 lb to 7.90 lb	77 g 0.17 lb
More than 3.58 kg to 4.26 kg More than 7.90 lb to 9.40 lb	86 g 0.19 lb
More than 4.26 kg to 5.30 kg More than 9.40 lb to 11.70 lb	99 g 0.22 lb
More than 5.30 kg to 6.48 kg More than 11.70 lb to 14.30 lb	113 g 0.25 lb
More than 6.48 kg to 8.02 kg More than 14.30 lb to 17.70 lb	127 g 0.28 lb
More than 8.02 kg to 10.52 kg More than 17.70 lb to 23.20 lb	140 g 0.31 lb
More than 10.52 kg to 14.33 kg More than 23.20 lb to 31.60 lb	167 g 0.37 lb
More than 14.33 kg to 19.23 kg More than 31.60 lb to 42.40 lb	199 g 0.44 lb
More than 19.23 kg to 24.67 kg More than 42.40 lb to 54.40 lb	226 g 0.50 lb
More than 24.67 kg More than 54.40 lb	2 % of labeled quantity

Table 2-6. Maximum Allowable Variations for Packages Labeled by Liquid and Dry Volume Do Not Use This Table for Meat and Poultry Products Subject to USDA Regulations - Use Table 2-9. For Mulch, see Table 2-10. Exceptions to the Maximum Allowable Variations	
Labeled Quantity	**Maximum Allowable Variations (MAVs)**
3 mL or less **0.5 fl oz or less** 0.18 in^3 or less	0.5 mL **0.02 fl oz** 0.03 in^3
More than 3 mL to 8 mL More than 0.18 in^3 to 0.49 in^3	1.0 mL 0.06 in^3
More than 8 mL to 14 mL More than 0.49 in^3 to 0.92 in^3	1.5 mL 0.09 in^3
More than 14 mL to 22 mL **More than 0.5 fl oz to 0.75 fl oz** More than 0.92 in^3 to 1.35 in^3	1.7 mL **0.06 fl oz** 0.10 in^3
More than 22 mL to 66 mL **More than 0.75 fl oz to 2.25 fl oz** More than 1.35 in^3 to 4.06 in^3	3.8 mL **0.13 fl oz** 0.23 in^3
More than 66 mL to 125 mL **More than 2.25 fl oz to 4.25 fl oz** More than 4.06 in^3 to 7.66 in^3	5.6 mL **0.19 fl oz** 0.34 in^3
More than 125 mL to 170 mL **More than 4.25 fl oz to 5.75 fl oz** More than 7.66 in^3 to 10.37 in^3	7.3 mL **0.25 fl oz** 0.45 in^3
More than 170 mL to 221 mL **More than 5.75 fl oz to 7.50 fl oz** More than 10.37 in^3 to 13.53 in^3	9.1 mL **0.31 fl oz** 0.55 in^3
More than 221 mL to 347 mL **More than 7.50 fl oz to 11.75 fl oz** More than 13.53 in^3 to 21.20 in^3	11.2 mL **0.38 fl oz** 0.68 in^3
More than 347 mL to 502 mL **More than 11.75 fl oz to 17 fl oz** More than 21.20 in^3 to 30.67 in^3	14.7 mL **0.5 fl oz** 0.90 in^3
More than 502 mL to 621 mL **More than 17 fl oz to 21 fl oz** More than 30.67 in^3 to 37.89 in^3	18.6 mL **0.63 fl oz** 1.13 in^3
More than 621 mL to 798 mL **More than 21 fl oz to 27 fl oz** More than 37.89 in^3 to 48.72 in^3	22.1 mL **0.75 fl oz** 1.35 in^3
More than 798 mL to 916 mL **More than 27 fl oz to 31 fl oz** More than 48.72 in^3 to 55.94 in^3	26.0 mL **0.88 fl oz** 1.58 in^3
More than 916 mL to 1.15 L **More than 31 fl oz to 39 fl oz** More than 55.94 in^3 to 70.38 in^3	29 mL **1 fl oz** 1.80 in^3
More than 1.15 L to 1.62 L **More than 39 fl oz to 55 fl oz** 70.38 in^3 or more to 99.25 in^3	36 mL **1.25 fl oz** 2.25 in^3
More than 1.62 L to 2.04 L **More than 55 fl oz to 69 fl oz** More than 99.25 in^3 to 124.5 in^3	44 mL **1.5 fl oz** 2.70 in^3

Table 2-6. Maximum Allowable Variations for Packages Labeled by Liquid and Dry Volume Do Not Use This Table for Meat and Poultry Products Subject to USDA Regulations - Use Table 2-9. For Mulch, see Table 2-10. Exceptions to the Maximum Allowable Variations	
Labeled Quantity	**Maximum Allowable Variations (MAVs)**
More than 2.04 L to 2.51 L **More than 69 fl oz to 85 fl oz** More than 124.5 in^3 to 153.3 in^3	51 mL **1.75 fl oz** 3.1 in^3
More than 2.51 L to 3.04 L **More than 85 fl oz to 103 fl oz** More than 153.3 in^3 to 185.8 in^3.	59 mL **2 fl oz** 3.6 in^3
More than 3.04 L to 4.73 L **More than 103 fl oz to 160 fl oz** More than 185.8 in^3 to 288.7 in^3	73 mL **2.5 fl oz** 4.5 in^3
More than 4.73 L to 5.48 L **More than 160 fl oz to 185.6 fl oz** More than 288.7 in^3 to 334.9 in^3.	88 mL **3 fl oz** 5.4 in^3
More than 5.48 L to 7.09 L **More than 185.6 fl oz to 240 fl oz** More than 334.9 in^3 to 443.1 in^3	103 mL **3.5 fl oz** 6.3 in^3
More than 7.09 L to 8.04 L **More than 240 fl oz to 272 fl oz** More than 443.1 in^3 to 490.8 in^3.	118 mL **4 fl oz** 7.2 in^3
More than 8.04 L to 10.17 L **More than 272 fl oz to 344 fl oz** More than 490.8 in^3 to 620.8 in^3	133 mL **4.5 fl oz** 8.1 in^3
More than 10.17 L to 11.59 L **More than 344 fl oz to 392 fl oz** More than 620.8 in^3 to 707.4 in^3	147 mL **5 fl oz** 9.0 in^3
More than 11.59 L to 16.56 L *More than 392 fl oz to 560 fl oz* More than 707.4 in^3 to 1,010 in^3	177 mL **6 fl oz** 10.8 in^3
More than 16.56 L to 18.92 L **More than 560 fl oz to 640 fl oz (5 gal)** More than 1,010 in^3 into 1,155 in^3	207 mL **7 fl oz** 12.6 in^3
More than 18.92 L to 23.65 L **More than 640 fl oz to 800 fl oz** More than 1,155 in^3 to 1,443 in^3	236 mL **8 fl oz** 14.4 in^3
More than 23.65 L to 26.73 L **More than 800 fl oz to 904 fl oz** More than 1,443 in^3 to 1 631 in^3	266 mL **9 fl oz** 16.2 in^3
More than 26.73 L **More than 904 fl oz** More than 1 631 in^3	**1 % of labeled quantity**

Table 2-8. Maximum Allowable Variations for Packages Labeled by Length, (Width), or Area For Textiles, Polyethylene Sheeting and Film, see Table 2-10. Exceptions to the MAVs	
Labeled Quantity	**Maximum Allowable Variations (MAVs)**
1 m or less 1 yd or less	3 % of labeled quantity
More than 1 m to 43 m More than 1 yd to 48 yd	1.5 % of labeled quantity
More than 43 m to 87 m More than 48 yd to 96 yd	2 % of labeled quantity
More than 87 m to 140 m More than 96 yd to 154 yd	2.5 % of labeled quantity
More than 140 m to 301 m More than 154 yd to 330 yd	3 % of labeled quantity
More than 301 m to 1,005 m More than 330 yd to 1,100 yd	4 % of labeled quantity
More than 1,005 m or 1,100 yd	5 % of labeled quantity
Maximum Allowable Variations for Packages Labeled by Area.	
The MAV for packages labeled by area is 3 % of labeled quantity	
For Textiles, Polyethylene Sheeting and Film, see Table 2-10. Exceptions to the MAVs	

Table 2-10. Exceptions to the Maximum Allowable Variations for Textiles, Polyethylene Sheeting and Film, Mulch and Soil Labeled by Volume, Packaged Firewood, and Packages Labeled by Count with Less than 50 Items.	
Product	**Maximum Allowable Variations (MAVs)**
Polyethylene Sheeting and Film	**Thickness** When the labeled thickness is 25 :m (1 mil or 0.001 in) or less, any individual thickness measurement of polyethylene film may be up to 35 % below the labeled thickness. When the labeled thickness is greater than 25 :m (1 mil or 0.001 in), individual thickness measurements of polyethylene sheeting may be up to 20 % less than the labeled thickness. The average thickness of a single package of polyethylene sheeting may be up to 4 % less than the labeled thickness. **Weight** The MAV for individual packages of polyethylene sheeting and film shall be 4 % of the labeled quantity.
Textiles	The MAVs are: For packages labeled with dimensions of 60 cm (24 in) or more: Three percent of the labeled quantity for negative errors and 6 % of the labeled quantity for plus errors. For packages labeled with dimensions less than 60 cm (24 in): Six percent of the labeled quantity for negative errors and 12 % for plus errors.
Mulch and Soil Labeled by Volume	The MAVs are: For individual packages: 5 % of the labeled volume. For samples: one package may exceed the MAV for every 12 packages in the sample (e.g., when the sample size is 12 or less, 1 package may exceed the MAV and when the sample size is 48 packages, 4 packages may exceed the MAV).
Packaged Firewood and Packages Labeled By Count with Less Than 50 Items	MAVs are not applied to these packages.

Appendix C

Summary of Written Comments Received for 232-3: Scaling Methods for Trees, Sawlogs & Veneer Logs

	Comments Received Opposing the Proposal	Number of times[1]
1	The proposed change will be costly for all members of the private forestry community. It will require mills to revise their accounting, inventory, and software systems, the costs of which will be passed on to landowners and consumers.	133
2	Different log measurement methods exist to accommodate regional and species-specific differences.	104
3	This is inappropriate/unwarranted/unwanted government intervention in private industry.	89
4	The market (which considers many characteristics other than volume) determines the value of logs, not the measurement method.	70
5	There has been inadequate notice provided to interested parties.	68
6	There is no demonstrated need for this change.	65
7	All scaling methods, when properly applied, provide unbiased and consistent estimates of timber volumes.	62
8	Most transactions are done on a weight scale basis, which is the most accurate method available.	46
9	This proposal appears to be designed primarily to make reporting easier for the Forest Service and contains little, if any, value for the industry.	41
10	The people who use the different scales recognize their variability and have experience using them properly.	29
11	The people who use the current systems are not interested in changing them.	27
12	There is no one scaling method that can accurately capture the value of all types of lumber.	24
13	This proposal requires that scalers measure both ends of every log. This is time-consuming, costly, and often poses a significant safety hazard.	23
14	This proposal simply replaces one archaic measurement method with another equally unreliable method.	17
15	The timber industry in the U.S. is in a financial crisis. The cost of implementing this proposal would bankrupt many mills and other parties in the timber industry.	17
16	Oppose the proposal (no reasons given).	17
17	Changing to a cubic scale will create confusion and uncertainty within the marketplace.	16
18	The value of an unrefined forest product has more to do with its quality than its volume measurement.	14
19	Implementing this change will require the entire forest community to be educated. This will place a tremendous burden on the industry.	12
20	Because it is difficult to convert from weight and board feet to cubic volume, this proposal will only make it more difficult for the people who are selling timber (logging contractors and landowners) to understand how they are getting paid, which leaves them susceptible to being taken advantage of during the transaction.	10
21	Cubic scaling will require mills to rely upon the skill and honesty of the person doing the scaling.	8
22	The proposal would require imposition of a dual measurement system for the industry as they would be forced to purchase by cubic volume, and then turn around and sell by the board foot since the board foot is what the end user requires.	7
23	The proposed changes are meaningless and cumbersome.	5
24	State agencies that manage timberland will incur costs to convert their operations to a cubic scaling system, something they cannot afford with the current budget deficits.	4
25	This proposal uses the Smalian's formula for estimating log volume. Smalian's formula is useful only if diameters are measured every 8-16 feet in length, and overestimates volume for trees with butt swell.	3

	Comments Received Opposing the Proposal	Number of times[1]
26	For those government operations that require cubic volume measurements (e.g., severance tax systems, or U.S. Forest Service surveys), industry uses a conversion factor from the weight scale, rather than a cubic scaling method.	3
27	This proposal is contrary to the Healthy Forest Initiative recently passed by Congress.	3
28	States should have the authority and responsibility to oversee timber commerce with their borders.	3
29	Lumber is sold to the public based on board feet because they can relate that to its square foot coverage.	2
30	The proposal will require numerous statutory changes to existing state law.	2
31	The method proposed does not take into account thinning sales of small stems, the salvage of dead or dying timber, or any loss of volume or quality during the life of a sale.	2
32	The proposed definitions are inadequate and do not take into account multi-stem (clump-growth) trees or trees which fork below breast height.	1
33	Since 1960 almost all of the major "diagrammatic" log rules have been updated or modified to meet modern processing technology and resource sizes.	1
34	Implementation in 2005 is too soon. Many 2005 timber contract sales have already been negotiated with appraisals based upon current standards.	1
35	Federal regulation will create a need for enforcement. Enforcement will cost money, which many States cannot afford.	1
36	This proposal is contrary to the Federal Timber Purchasers Committee's efforts to promote regional discretion for Forest Service sales.	1

[1] *The "Number of times" column does not represent the number of letters received. It represents the number of times this reason was cited by letter writers. Many letters contained more than one reason for the writer's position.*

	Comments Received Supporting the Proposal	Number of times[1]
1	Conversions from weight to board feet are very inaccurate, while conversions from weight to cubic volume are very precise when the conversion factors are based on accurate regional data.	2
2	This proposal is an improvement over the board foot measures because the board foot systems invariably under-estimate the volume of small diameter logs.	2
3	This proposal uses a formula that is taught around the world, is a global measure that everyone can understand and would make our log volume data comparable with other countries.	2
4	Without a consistent method of sale across the country, it is impossible to determine whether or not our forests are more or less productive than forests in foreign countries, or whether or not our sawmills are more or less efficient in converting logs into lumber.	1
5	This proposal would provide a more accurate measure of log volume for both buyers and sellers.	1
6	There are uniform weight and measure standards for other products, so why not for forest products?	1
7	Second-growth being harvested today is smaller with a greater taper. It is generally miscalled by the Doyle system.	1
8	Because most modern day scaling is done by weight and then converted to board feet using a conversion factor, there is no reason why the same process cannot be used to convert to cubic volume.	1
9	While cruising timber will be a challenge under this proposal, mills and foresters will, through experience, learn the appropriate factors to use.	1
10	A uniform measure will create parity between the producing regions and help determine efficiencies, profitability, and the best forest management techniques for the benefit of society.	1
11	The growth measurement of trees is most accurately represented at any point in their life cycle using cubic volume.	1
12	This proposal is flexible enough to be adaptable to local log market practices.	1
13	Scaling by weight, while appropriate for large volumes of chipwood, does not easily allow credit for high quality logs.	1
14	Small private landowners typically sell their timber only one or two times in their lifetimes. Having different scaling methods can cause confusion.	1
15	The log buyer invariably understands the scaling methods better than the landowner, leaving the landowner vulnerable to price or scale manipulation.	1
16	Support the proposal (no reasons given).	1

[1] The "Number of times" column does not represent the number of letters received. It represents the number of times this reason was cited by letter writers. Many letters contained multiple reasons for the writer's position.

Comments Received From		
Name	**Representing**	**State**
Adams, J.	Self	Unknown
Anthony, John	Anthony Timberlands Inc	AR
Anthony, Steven	Anthony Timberlands Inc	AR
Argow, Keith	National Woodland Owners Association	VA
Armstrong, James	Portac Inc	WA
Arnold, Jerry	Weyerhaeuser	AR
Ashby, Jerry	Pacific Rim Log Scaling Bureau Inc	WA
Askew, Joe	Self	Unknown
Baker, Ronald	Miller Shingle Company	WA
Barras, Steve	ORRM	Unknown
Bartlett, Michael	Hull Forest Products Inc	Unknown
Bauer, Robert	Kentucky Forest Industries Association	KY
Beddingfield, Ben	Floragon Forest Products Inc	OR
Belken, Ed	Self	WV
Bellman, Mickey	MSB Consulting Inc	OR
Benson, Mark	Potlatch Corporation	ID/AR/MN
Billman, Mike	Malheur Lumber Company	OR
Blachly, Andy	Hampton Tree Farms Inc	OR
Black, Robert III	Timberland Resources Inc	Unknown
Bland, John & Bobbie	Self	AR
Bolland, Jud	Potlatch Corporation	ID/AR/MN
Bradetich, Doug	Riley Creek Lumber Company	ID
Braswell, Max	Domtar Industries Inc	AR
Brenneisen, Dave	Federal Timber Purchasers Committee	SD
Brigance, A.J.	USFS Womble/Caddo Ranger Districts	AR
Brodie, T. Furman	Charles Ingram Lumber Company Inc	SC
Brown, Keith	Texas Logging Council	TX
Burgess, Steven	Self	AR
Burns, Debbie	Southeastern Lumber Manufacturers Association Inc	GA
Burton, Larry	Tru-Wood Cabinets Inc	AL
Bush, J.R.	Virginia Forest Products Association	VA
Camp, Wade	SFPA	LA
Caroll, Mark	Appalachian Forest Products Inc	WV
Casey, Don	Self	AL
Cathey, Joel	Ontario Hardwood Company Inc	VA
Chang, Sun Joseph	Louisiana State University	LA
Cochran, Carrol	Self	Unknown
Colegrove, Nolan Sr.	Intertribal Timber Council	OR
Cooper, Karl	Georgia-Pacific Corporation	GA
Craig, Keith	Pennsylvania Hardwoods Development Council	PA
Crawford, Sloane	New York State Forest Products Utility Program	NY
Crites, John	Allegheny Wood Products Inc	WV
Crouse, Richard	Bryant & Young Lumber Company Inc	NC
Crowell, James	Northern California Log Scaling & Grading Bureau	CA
Curtis, Gary	Columbia River Log Scaling & Grading Bureau	OR
Dale, Don	Weyerhaeuser	AR
Dicke, Stephen	Self	MS
Dinwiddle, Candace	Tennessee Forestry Association	TN
Dismukes, Mr.	Vaiden Timber Company	MS
Ructor, Daniel	American Loggers Council	TX

Comments Received From		
Name	**Representing**	**State**
Dye, Charles	West Virginia Division of Forestry	WV
East, Vicki	Tru-Wood Cabinets Inc	AL
Ellis, Richard	Ellis & Holmes LLC	NC
Farrell, Jay	American Forest & Paper Association	DC
Fischer, Burnell	National Association of State Foresters	DC
Fishering, Nancy	Colorado Timber Industry Association	CO
Foil, Dave	Forest Resource Consultants Inc	GA
Ford, Doug	Minnesota DNR Division of Forestry	MN
Foster, James	Kingwood Forestry Service Inc	AR
Francisco, Gene	Wisconsin Professional Loggers Association	WI
Freeman, Kenneth	Self	AL
Freres, Robert Jr.	Freres Lumber Company Inc	OR
Geisinger, James	Associated Oregon Loggers Inc	OR
Gelbert, Robin	Self	Unknown
Gentis, Walt	Ochoco Lumber Company	OR
Gibbs, Kenneth	Self	WV
Giustina, Larry	Giustina Land & Timber Company	Unknown
Goergen, Michael Jr.	Society of American Foresters	MD
Graham, Owen	Alaska Forest Association Inc	AK
Griffith, Bruce	Griffith Lumber Company Inc	VA
Haines, Gary	TreeSource Industries Inc	Unknown
Hale, Paul	Texas Logging Council	TX
Hamel, Ralph	Ralph Hamel Forest Products Inc	WI
Hamilton, Will	Hamilton Resource Management	WA
Hampton, David	Hampton Tree Farms Inc	OR
Hayes, Vernon Jr.	Forest Landowners Association	MD
Heissenbuttel, John	American Forest & Paper Association	DC
Henderson, Bud	Hampton Tree Farms Inc	OR
Hicks, Ed	Self	Unknown
Hogan, Jane	Ontario Hardwood Company Inc	VA
Hogan, R. Holt	Ontario Hardwood Company Inc	VA
Horn, Clinton	Bradley Lumber Company	AR
Houghland, Paul Jr.	National Hardwood Lumber Association	TN
Howe, Paul	Virginia Forestry Association	VA
Hufford, Ron	Texas Forestry Association	TX
Hurst, James	Owens & Hurst	MT
Ivanoff, David	Hampton Tree Farms Inc	OR
Jaynes, Crad	South Carolina Timber Producers Association	SC
Johnson, Roy	Self	Unknown
Johnston, George	Self	AR
Jones, William	Alabama Loggers Council	AL
Jordan, Jonell	Tru-Wood Cabinets Inc	AL
Keep, Scott	Self	OR
Keider, Michael	Self	Unknown
Keighley, Tom	Self	LA
Kelly, Boyd	Alabama Loggers Council	AL
Kendrick, Gordon	Self	AL
Kennell, David	Self	WV
King, Kevin	Empire State Forest Products Association	NY
Kirkmire, George	Washington Contract Loggers Association	WA
Kostovick, Matthew	Self	WV

Comments Received From		
Name	**Representing**	**State**
Koulianos, Nick Jr.	Self	Unknown
Kriegel, Paul	Goodyear Nelson Hardwood Lumber Company Inc	Unknown
Levins, Bob	State of Arkansas	AR
Lewis, Richard	Forest Resources Association	MD
Linn, Danny & Linda	Self	AR
Livingston, Phillip	Kingwood Forestry Service Inc	AR
Lockhart, Chuck	K Ply Inc	WA
Lynn, Jerry	Self	AR
Lyskava, Paul	Pennsylvania Forest Products Association	PA
Mackey, R. Bruce	Washington State Dept. of Natural Resources	WA
Mansius, Donald	Maine Forest Service	ME
McGuire, Greg	Boise Cascade Corporation	WA
McKinney, Gary	Green Bay Packaging	AR
McLaughlin, Bruce	Robbins Lumber Inc	ME
Mitchell, Lylyn	AR/OK Timberlands Finance & Planning	AR/OK
Moran, Milton Jr.	Columbia River Log Scaling & Grading Bureau	OR
Morgan, Allen	Self	Unknown
Nutt, James	Timber Services Inc	TX
Oates, Rick	Alabama Loggers Council	AL
Padgett, Preston	Packaging Corporation of America	TN
Partin, Tom	American Forest Resource Council	OR
Pickell, Bill	Washington Contract Loggers Association	WA
Pomeroy, Ed	Georgia-Pacific Corporation	GA
Porter, Edwin	Maine Department of Agriculture	ME
Pullin, Steve	SV Pullin Inc	WA
Randall, Mike	Swanson Bros Lumber Co	OR
Ranick, Jim	Black Hills Forest Resource Association	SD
Re, Richard	Seneca Sawmill Company	OR
Reckart, Donna	Public Lands Committee, WV Forestry Association	WV
Regan, Edward	RY Timber Inc	MT
Reynolds, Teddy	Reynolds Forestry Consulting-RFC Inc	AR
Richbourg, David	Self	NC
Ridenhour, Cory	Missouri Forest Products Association	MO
Riley, James	Intermountain Forest Association	ID
Robbins, J. Kelley	Arkansas Forestry Association	AR
Roberts, Karen	Self	AL
Robinson, Foster	Starfire	OR
Rodgers, Kirk	Maryland Forests Association Inc	MD
Roesch, Teresa	Self	AL
Rossi, Theodore	Rossi American Hardwoods Inc	Unknown
Rush, David	Tru-Wood Cabinets Inc	AL
Rush, Kenneth	Tru-Wood Cabinets Inc	AL
Schatz, Fred	Columbia Vista Corporation	Unknown
Schmidt, Ernie	Wyoming Timber Industry Association	WY
Schroeder, Gary	C&D Lumber Company	OR
Scott, Robert	South Carolina Forestry Association	SC
Shannon, Rosemond	Self	AL
Shaw, Randy	Forest Resource Consultants Inc	GA
Shofner, Tara	Arkansas Farm Bureau	AR
Simpson, Montgomery	Georgia Forestry Association	GA
Slocum, Robert Jr.	North Carolina Forestry Association	NC

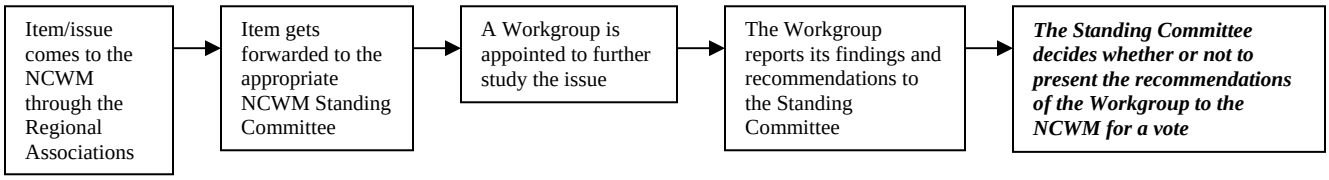
Comments Received From		
Name	**Representing**	**State**
Smith, Douglas	Self	Unknown
Smith, Ed	Self	LA
Smythe, Stuart	Self	Unknown
Spadaro, Jason	SDS Lumber Company	WA
St. Laurent, Tom	Yamhill Log Scaling & Grading Bureau	OR
Stephens, Melanie	Linden Lumber Company LTD	AL
Stock, Jasen	New Hampshire Timberland Owners Association	NH
Storm, Rex	Associated Oregon Loggers Inc.	OR
Swanson, Susan	Allegheny Hardwood Utilization Group	PA
Tennyson, Carolyn	Self	AR
Thayer, Laurel	Freres Lumber Company Inc	OR
Thompson, Lynn	University of Arkansas	AR
Thompson, Tom	USDA Forest Service, National Forest System	DC
Thornbury, Larry	Tru-Wood Cabinets Inc	AL
Vroman, S. Mark	Hampton Tree Farms Inc	OR
Waybright, Dick	West Virginia Forestry Association	WV
Westmark, Russ	Portac Inc.	WA
Whistler, Alex	Bureau of Indian Affairs	OR
Wilson, Frank	Self	Unknown
Woodbury, George	Alaska Forest Association Inc	AK
Wright, J. Tobey	Association of Consulting Foresters of America	VA
Yansick, James	State of Connecticut Dept of Envir. Prot.	CT

Appendix D

The L&R Committee Recommendation to the Board of Directors on Workgroups

The Committee believes that the current structure, whereby NIST establishes and coordinates Workgroups when it feels that they are warranted, works well and should be encouraged to continue. If, however, the NCWM Board feels that establishing and coordinating their own Workgroups would be beneficial, then the Committee would like to make the following recommendations:

Placement of Workgroups within the NCWM process:



Setting up Workgroups

- Workgroups should be established to address complex or controversial issues that come before the NCWM. The intent of these workgroups should be to bring all effected and interested parties (federal, state and local regulators; manufacturers; distributors; retailers; consumers; etc.) together to discuss and develop proposals to resolve these issues in a way that all parties can agree upon (or at least live with).

- Workgroups should be established at the discretion of the Standing Committees.

- If the Standing Committee believes that the Workgroup can perform its work without funding (e.g., through e-mail), then the Standing Committee would merely provide the Board with notice that the Standing Committee has established a Workgroup through a copy of the Workgroup's Charter.

- If the Standing Committee believes that the Workgroup will need funds to perform its tasks, then the Standing Committee should submit to the Board a budget along with a request for funds and a copy of the Workgroup's Charter. The Board should be required to approve, deny, or modify the Standing Committee's request for funds by the end of the Board meeting that immediately follows the request of the Standing Committee (e.g., if the Standing Committee requested funds for a Workgroup at the NCWM Annual meeting, the Board should be required to act on this request by the end of the Board's fall meeting).

The Workgroup's Charter

- To provide the Workgroup with clear direction and to help it understand what the Standing Committee expects as a product, the Standing Committee should be required to draft a Charter for each Workgroup it establishes. (For example: This Workgroup is established to study temperature compensated sales of petroleum products other than LPG. As part of this study, the Workgroup is expected to determine: (1) How common is the practice of temperature compensation with different devices (VTMs, RMFDs, etc.) and different petroleum products (gasoline, home heating fuel, etc.) both inside and outside the U.S.; and (2) What jurisdictions within the U.S. currently have laws regulating the temperature compensation of petroleum products (both requiring and prohibiting), and what do those laws say. Ultimately, the Workgroup is expected to make recommendations to the Standing Committee: (1) About whether or not the temperature compensation of petroleum products should be permissible, prohibited, or mandated; and (2) Suggesting language for a new law or regulation that the Standing Committee can take to the NCWM for a vote.)

- As part of the Charter, the Standing Committee should establish intermediary goals with timelines for the Workgroup to report progress to the Standing Committee.

- As part of the Charter, the Standing Committee should designate a Workgroup Chairperson. The Workgroup Chairperson will be responsible for contacting the participants, coordinating the meetings, and making reports to the Standing Committee.

- As part of the Charter, the Standing Committee should identify key regulatory, industry, and consumer stakeholders that the Workgroup Chairperson is expected to contact and invite to participate in the Workgroup. These stakeholders should not be required to be, or become, members of the NCWM.

Workgroup Membership

- Workgroups should be comprised of interested volunteers. No one who is interested in an issue should be prohibited from participating in the Workgroup.

- Workgroup participants should not need to be NCWM members. (If participants in the Workgroup see the NCWM as having value, they should be encouraged to join. However, it is in the best interest of the NCWM to have input from all sides of an issue from those individuals who are the most knowledgeable, and therefore the L&R Committee believes that it is not advisable to exclude non-NCWM members from participating in the Workgroups.)

- The Workgroup Chairperson should have the discretion to expand the Workgroup participants beyond the stakeholders identified by the Standing Committee.

- All agencies/companies/organizations/associations that participate in the Workgroup should have an equal voice in the final product of the Workgroup.

Communications Outside the Workgroup

- The NCWM should establish a webpage for each Workgroup so the Workgroup can post its reports, meeting schedules, and contact information.

- The Standing Committee's Charter establishing the Workgroup should be published in NIST Publication 15 or 16 as part of the Standing Committee's Report.

- The progress reports that the Workgroup submits to the Standing Committee per the Workgroup's Charter should be published in NIST Publication 15 or 16 as part of the Standing Committee's Report.

- Workgroup participants should be encouraged to write articles for trade association and consumer newsletters about the work of the Workgroup and to solicit input from non-participants.

Funding Workgroup Participation

- If travel and other expenses are anticipated, state and local jurisdictions will need funding to participate in the Workgroups. The Standing Committee, when drafting the Workgroup budget and request for funds from the Board, should specify how many jurisdictions the Standing Committee believes should be funded to participate.

- If travel and other expenses are anticipated, consumer groups and other parties may need funding to participate in the Workgroups. The Standing Committee, when drafting the Workgroup budget and request for funds from the Board, should specify how many other members the Standing Committee believes should be funded to participate.

- Federal agencies and industry members should be expected to fund their own participation.

- If there are more parties interested in participating in the Workgroup than there is money to fund them, then the Workgroup Chairman should have the discretion to decide whose participation shall be funded. Such decision shall be made based upon the needs of the Workgroup, and be made to ensure adequate representation of all sides of the issue. The decision of the Workgroup Chairman may be appealed to the Standing Committee, if necessary.

Dennis Johannes, California, Chairman
Joe Gomez, New Mexico
Max Gray, Florida
James Cassidy, Cambridge, Massachusetts
Vicky Dempsey, Montgomery County, Ohio

Vincent Orr, ConAgra Foods, Associate Member Representative

Doug Hutchinson, Canada, Technical Advisor
Brian Lemon, Canada, Technical Advisor
Kathryn Dresser, NIST, Technical Advisor

Committee on Laws and Regulations